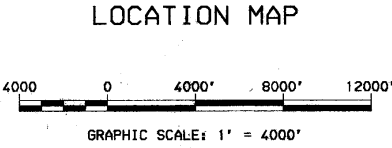
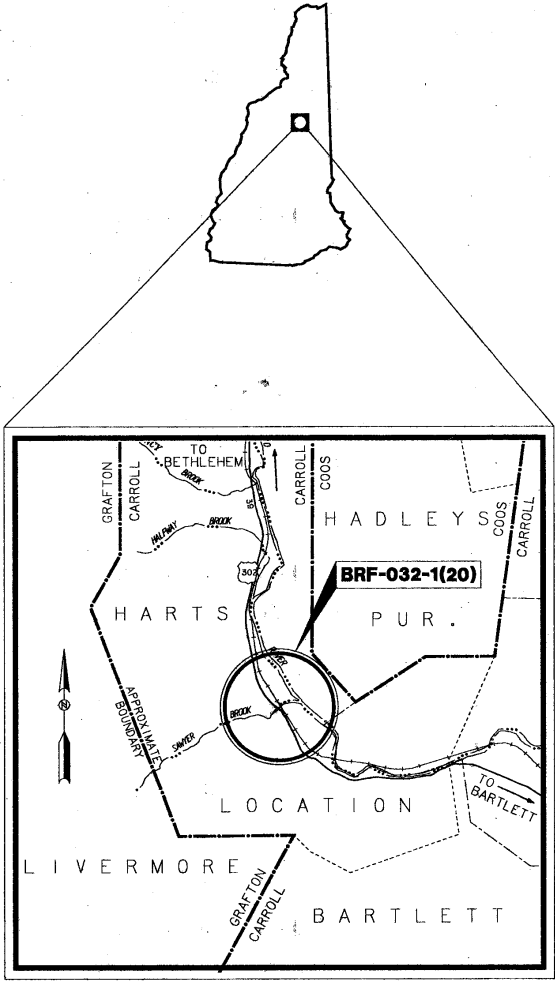


THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED  
FEDERAL AID PRIMARY  
BRIDGE REPLACEMENT PROJECT

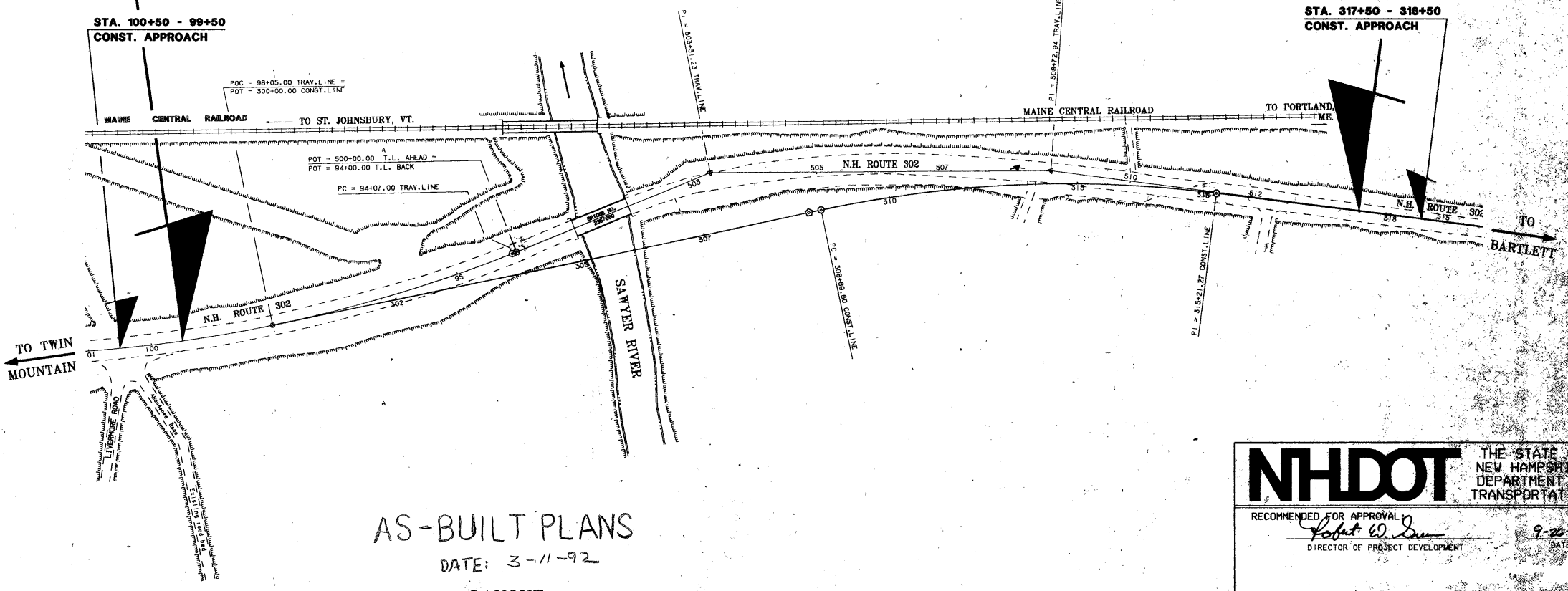
BRF-032-1(20)  
N.H. PROJECT NO. P-4366  
N.H. ROUTE 302

DESIGN DATA			
AVERAGE DAILY TRAFFIC 1990	2690		
AVERAGE DAILY TRAFFIC 2010	4050		
PERCENT OF TRUCKS	5	%	
DESIGN SPEED	50	M.P.H.	
LENGTH OF PROJECT	0.369	MILES	



STA 99+50  
BEGIN BRF-032-1(20)

STA 317+50  
END BRF-032-1(20)



AS-BUILT PLANS  
DATE: 3-11-92  
LAYOUT  
SCALE: 1" = 100'

TOWN OF HARTS LOCATION  
COUNTY OF CARROLL

<b>NHDOT</b> THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION			
RECOMMENDED FOR APPROVAL <i>Robert W. Dineen</i> DIRECTOR OF PROJECT DEVELOPMENT		DATE: 9-26-90	
APPROVED: <i>John S. Knaus</i> ASST. COMMISSIONER		DATE: 9-26-90	
U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION			
APPROVED: _____ DIVISION ADMINISTRATOR			
FEDERAL PROJECT NO. BRF-032-1(20)	STATE PROJECT NO. P-4366	SHEET NO. 1	TOTAL SHEETS 45

DRAWN BY: STEVE LEBARON DATE: 1-22-88  
CHECKED BY: WILLIAM HARDMAN DATE: 10-6-90

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE PAGE
2	INDEX OF SHEETS & GENERAL NOTES
3	INDEX OF STANDARD SHEETS & CONSTRUCTION SIGN STANDARD SHEETS
4	STANDARD SYMBOLS
5 & 6	TYPICAL SECTIONS OF IMPROVEMENT
7	SUMMARY OF QUANTITIES (ROADWAY)
	<u>SPECIAL USE PLANS:</u>
8	EROSION CONTROL DETAILS
9-11	SPECIAL GUARDRAIL DETAILS
12	PORTABLE CONCRETE BARRIER
	<u>BRIDGE PLANS:</u>
13-32	BRIDGE OVER THE SAWYER RIVER
	<u>ROADWAY PLANS:</u>
33 & 34	GENERAL PLANS
35	PROFILE U.S. ROUTE 302
36 & 37	DRAINAGE, GUARDRAIL, CURBING, PAVEMENT LAYOUT, AND PAVEMENT MARKING PLANS
	<u>CROSS-SECTIONS:</u>
38-45	U.S. ROUTE 302

THE FOLLOWING GENERAL NOTES  
WILL BE USED ON THIS PROJECT:

1	2			5	6	7	8				12
13	14									23	
25											

GENERAL NOTES

- 1 THIS PROJECT TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS DATED 1983 AND SUPPLEMENTAL SPECIFICATIONS, CURRENT STANDARD SHEETS AND SPECIAL PROVISIONS ATTACHED TO THE PROPOSAL.
- 2 ADJUSTING, ALTERING OR RELOCATING THE PROPERTY OF ANY PUBLIC UTILITY SHALL BE DONE BY THE OWNER, NOT A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH THE OWNER IN THE PERFORMANCE OF THE WORK.
- 3 HIGH TENSION OVERHEAD TRANSMISSION LINES ARE LOCATED THROUGHOUT THE PROJECT WITH CROSSINGS AT VARIOUS LOCATIONS AND RUNNING ALONG THE ROAD THROUGHOUT THE PROJECT EVEN ON REGULAR POLES. THE CONTRACTOR IS ADVISED THAT EXTREME CAUTION WILL BE REQUIRED IN THE OPERATION OF EQUIPMENT, ESPECIALLY CRANES AND PILE DRIVING EQUIPMENT.
- 4 ALL EXISTING UTILITY POLES WILL BE RELOCATED BY OTHERS TO A MINIMUM OF \_\_\_\_ FEET FROM THE ROADWAY CENTERLINE.
- 5 THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE EXACT LOCATION SHOULD BE ESTABLISHED IN THE FIELD BY THE UTILITY COMPANY PRIOR TO ANY EXCAVATION OR POST DRIVING.
- 6 DRIVES SHALL BE REPLACED IN KIND EXCEPT AT THOSE LOCATIONS WHERE DRIVES HAVE BEEN STEEPENED TO THE EXTENT THAT A MORE STABLE SURFACE IS WARRANTED. ALL GRAVEL DRIVES TO RESIDENCES AND OTHER GRAVEL DRIVES WHEN ORDERED, SHALL BE CONSTRUCTED WITH A PAVED APRON ADJACENT TO THE SHOULDER.
- 7 TOPSOIL SHALL BE REMOVED FOR ITS TOTAL DEPTH WITHIN THE LIMITS OF THE SLOPE LINES. UNLESS OTHERWISE DIRECTED, THE TOPSOIL SHALL BE STOCKPILED AND USED IN ITS ENTIRETY UNDER SECTION 641 - LOAM AND / OR SECTION 647 - HUMUS.
- 8 UNSUITABLE MATERIAL, ROOTS AND STUMPS WITHIN THE LIMITS OF THE ROAD BED, SHALL BE REMOVED AS ORDERED.
- 9 MUCK SHALL BE REMOVED BY EXCAVATION UNDER ITEM (203.1), (203.4), OR BY DISPLACEMENT, AS ORDERED.
- 10 THE SUBGRADE SHALL BE SCARIFIED TO ASSURE THAT ALL BOULDERS AND COBBLES OVER 6 INCHES ARE REMOVED WITHIN 36 INCHES OF FINISHED GRADE. THIS WORK AND RECOMPACTION OF THE SUBGRADE WILL BE PAID UNDER ITEM 212.1 - SCARIFYING.
- 11 EXISTING LEDGE AND BOULDER OUTCROPS ARE TO BE REMOVED AND / OR BERMED AS SHOWN OR AS ORDERED.
- 12 HUMUS SHALL BE APPLIED TO ALL EARTH SLOPES NOT LOAMED TO A NOMINAL DEPTH OF 3-1/2 INCHES (471 C.Y./ACRE), UNLESS OTHERWISE ORDERED.
- 13 ALL NEW EARTH SLOPES SHALL BE MULCHED.
- 14 THE SLOPES AROUND EXTENDED PIPES SHALL BE FLATTENED AND GRADED AS SHOWN OR ORDERED.
- 15 ASPHALT SURFACE TREATMENT INCLUDING SAND COVER SHALL BE APPLIED TO THE TRAVELED WAY AS A PRIME COAT AT THE RATE OF 0.50 GALLONS PER SQUARE YARD IN ONE APPLICATION, OR AS ORDERED.
- 16 ASPHALT SURFACE TREATMENT INCLUDING SAND COVER SHALL BE APPLIED TO THE SHOULDER AS A PRIME COAT AT THE RATE OF 0.50 GALLONS PER SQUARE YARD IN ONE APPLICATION, OR AS ORDERED.
- 17 THE PAVEMENT OVERLAY SHALL BE WARPED TO MATCH EXISTING CATCH BASINS, DROP INLETS, AND/OR SIMILAR STRUCTURES.
- 18 EXISTING CONCRETE PAVEMENT REMOVAL WILL BE PAID UNDER ITEM 203.2 - ROCK EXCAVATION (\_\_\_\_C.Y./100 L.F.). THE BITUMINOUS PAVEMENT ABOVE THE CONCRETE WILL NOT BE PAID UNDER ITEM 203.2.
- 19 RESTORE SUPERELEVATION ON EXISTING CURVES BY THE USE OF A PAVEMENT LEVELING COURSE AS INDICATED ON PLANS OR AS ORDERED.
- 20 ALL CRACKS IN THE PAVEMENT MEASURING 1/4 INCH OR MORE IN WIDTH, OR AS ORDERED, SHALL BE TREATED WITH CRACK FILLER WITHIN THE LIMITS DESIGNATED ON THE PLANS.
- 21 ADJUSTMENT OF CATCH BASINS AND DROP INLETS OR SIMILAR STRUCTURES TO THE NEW PAVEMENT GRADE SHALL BE DONE AS ORDERED. PAYMENT WILL BE UNDER ITEM 604.45 - ADJUSTING CATCH BASIN AND DROP INLET GRATES AND FRAMES SET BY OTHERS.
- 22 EXISTING ANCHORS FOR CABLE GUARD RAIL SHALL BE DUG UP AND SALVAGED INTACT TO THE STATE.
- 23 ALL GUARD RAIL SHALL BE SET AT A 27 INCH RAIL HEIGHT BASED ON THE PAVEMENT OVERLAY, UNLESS OTHERWISE SHOWN OR ORDERED.
- 24 EXISTING DELINEATORS AND WITNESS MARKERS THAT ARE DISTURBED SHALL BE RESET. THIS WORK WILL BE SUBSIDIARY. ADDITIONAL DELINEATORS ORDERED WILL BE PAID UNDER APPROPRIATE ITEMS OF THE CONTRACT.
- 25 NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
- 26 UNPROTECTED PROJECT MARKERS SHALL BE REMOVED OR SET BACK TO 30 FEET FROM THE TRAVELED WAY AS ORDERED. THIS WORK WILL BE SUBSIDIARY.
- 27 CLEARING AND GRUBBING ON THIS PROJECT WILL BE SUBSIDIARY.
- 28 ALL WORK ON THIS PROJECT, UNLESS OTHERWISE SHOWN ON THE PLANS OR ORDERED, SHALL BE CONSTRUCTED WITHIN THE EXISTING RIGHT-OF-WAY.
- 29 COORDINATES FOR THIS PROJECT ARE (\_\_\_\_\_) AND THE BEARING SHOWN ARE (\_\_\_\_\_).

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION - BUREAU OF HIGHWAY DESIGN			
INDEX OF SHEETS AND GENERAL NOTES			
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	2	45

STANDARD SHEETS				
STANDARD	NO. 1	CONCRETE AND M.R.M. HEADWALLS	REVISED	MARCH 24, 1977
STANDARD	NO. 1-A	CONCRETE AND M.R.M. HEADWALLS	REVISED	MAY 8, 1970
STANDARD	NO. 2	STEEL ARCH PIPES, SLOPE PAVING, UNDERDRAIN HEADWALL	REVISED	MARCH 1, 1983
STANDARD	NO. 2-A	CORRUGATED ALUMINUM PIPE, PIPE ARCH, UNDERDRAIN FLUSHING BASIN	REVISED	DECEMBER 20, 1982
STANDARD	NO. 3	CATCH BASINS, DROP INLETS,	REVISED	OCTOBER 17, 1983
STANDARD	NO. 3-A	GRATES FOR C.B.'S & D.I.'S,	REVISED	OCTOBER 17, 1983
STANDARD	NO. 3-B	CATCH BASINS, DROP INLETS, TRAP	REVISED	OCTOBER 17, 1983
STANDARD	NO. 4	CURBING	REVISED	APRIL 21, 1982
STANDARD	NO. 5	CONCRETE BOUND, STEPS	REVISED	NOVEMBER 1, 1984
STANDARD	NO. 5-A	GUTTERS, SLUICE, SLOPES, MUCK EXCAVATION	REVISED	FEBRUARY 26, 1975
STANDARD	NO. 6	BEAM GUARD RAIL	REVISED	JUNE 11, 1981
STANDARD	NO. 6-A	BEAM GUARD RAIL	REVISED	DECEMBER 10, 1981
STANDARD	NO. 7	BEAM GUARD RAIL	REVISED	MAY 15, 1985
STANDARD	NO. 8	3 CABLE GUARD RAIL	REVISED	MARCH 24, 1977
STANDARD	NO. 8-A	3 CABLE GUARD RAIL	REVISED	DECEMBER 10, 1981
STANDARD	NO. 9	WOVEN WIRE & CHAIN LINK FENCE	REVISED	AUGUST 2, 1977
STANDARD	NO. 9-A	STEEL WITNESS MARKER, STEEL SIGN POST, DELINEATOR POST	REVISED	MAY 15, 1985
STANDARD	NO. 10	SIGNAL BASE, PULL BOX, CONDUIT DETAILS, HANDHOLE, FOUND. FOR CONT. CABINET	REVISED	MAY 15, 1985
STANDARD	NO. 10-A	LENS FOR TURNING MOVEMENTS, LIGHT POLE BASE, DETECTORS, PULL BOX	REVISED	NOVEMBER 1, 1984
STANDARD	NO. 11	END SECTIONS FOR PIPES	REVISED	MAY 21, 1975
STANDARD	NO. 12	DELINEATORS FOR: GUARD RAIL, MEDIAN BARRIERS	REVISED	MAY 15, 1985
STANDARD	NO. 12-A	DELINEATOR SPACING FOR RAMPS AND LOOPS	REVISED	MAY 15, 1985
STANDARD	NO. 13	URBAN MARKING AND SIGN POSTING	REVISED	MARCH 1, 1983
STANDARD	NO. 14	RUBBISH CONTAINER, FIREPLACE, TABLE, SHELTER	REVISED	AUGUST 1, 1969
STANDARD	NO. 15	FIREPLACE, DRINKING FOUNTAIN, WATER PIPE DRAINS, PICNIC SITES	REVISED	MARCH 24, 1977
STANDARD	NO. 16	SIDEWALK RAMPS, CONCRETE ISLAND BLOCKOUTS	REVISED	MAY 15, 1985

CONSTRUCTION SIGN STANDARD SHEETS				
CS	NO. 1	GENERAL NOTES	REVISED	MAY 15, 1985
CS	NO. 2	BARRICADES, REMOVAL OF PAVEMENT MARKING, CONES, DRUMS	REVISED	MAY 15, 1985
CS	NO. 3	PANELS & DELINEATORS, LIGHTING DEVICES, SIGN PADDLE, HAZARD MARKER	REVISED	MAY 15, 1985
CS	NO. 4	TRAFFIC CONTROL PROCEDURES, HAUL ROADS, BLASTING ZONES	REVISED	MAY 15, 1985
CS	NO. 5	TYPICAL LAYOUT - PERMANENT CONSTRUCTION SIGNING	REVISED	MAY 15, 1985
CS	NO. 6	SIGNS	REVISED	MARCH 1, 1983
CS	NO. 7	SIGNS	REVISED	MARCH 1, 1983
CS	NO. 8	SIGNS	REVISED	MAY 15, 1985
CS	NO. 9	TWO-WAY TRAFFIC LANE CLOSURE AND SHOULDER WORK	REVISED	MAY 15, 1985
CS	NO. 10	2 LANE DIVIDED, 2 LANE CLOSURE - BREAKDOWN LANE	REVISED	MAY 15, 1985
CS	NO. 11	DETOUR FOR 2 LANE CLOSURE, 2 LANE DIVIDED - BRIDGEWORK	REVISED	MAY 15, 1985
CS	NO. 12	4-LANE DIVIDED - 2 LANE CLOSURE UTILIZING CROSSOVER	REVISED	MAY 15, 1985
CS	NO. 13	MULTI-LANE CLOSURE	REVISED	MAY 15, 1985

THE FOLLOWING STANDARD SHEETS WILL BE USED ON THIS PROJECT:								THE FOLLOWING CONSTRUCTION SIGN STANDARD SHEETS WILL BE USED ON THIS PROJECT:					
	2	3	3-A	3-B	5	5-A			1	2	3	4	5
				9-A		11	12		6	7	8	9	
									11				

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION - BUREAU OF HIGHWAY DESIGN			
STANDARD SHEETS			
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET	TOTAL SHEETS
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EXISTING DETAIL	DATE	REVISIONS AFTER PROPOSAL	STATION	STATION	DESCRIPTION
	DATE				
	DATE				
	DATE				
PROPOSED DESIGN	DATE	REVISIONS AFTER PROPOSAL	STATION	STATION	DESCRIPTION
	DATE				
	DATE				
	DATE				
SHEET CHECKED	DATE	REVISIONS AFTER PROPOSAL	STATION	STATION	DESCRIPTION
	DATE				
	DATE				
	DATE				
AS BUILT DETAILS	DATE	REVISIONS AFTER PROPOSAL	STATION	STATION	DESCRIPTION
	DATE				
	DATE				
	DATE				

NOTE BOOKS	
BOOK	PAGE
BOOK	PAGE
BOOK	PAGE

## ENGINEERING

SURVEY OR TRAVERSE LINE	30 31 32 33
CONSTRUCTION LINE	30 31 32 33
PC & PT (IN CONST.&TRAVERSE LINES)	31
PI (IN CONST.&TRAVERSE LINES)	32
EQUATION OF TWO LINES	33
PROFILE GROUND LINE	
PROFILE GRADE LINE	
CROSS SECTION GROUND LINE	(INK)
CROSS SECTION TEMPLATE LINE	(LEAD)
SLOPE LINE (FILL)	
SLOPE LINE (CUT)	
GROUND ELEVATION (LEFT)	221 24.12
GRADE ELEVATION (RIGHT)	
PROPERTY PARCEL NUMBER	2
CLEARING & GRUBBING AREA	E
INTERSTATE NUMBERED HIGHWAY	3
UNITED STATES NUMBERED HIGHWAY	3
STATE NUMBERED HIGHWAY	10

## DRAINAGE

MANHOLE (EXISTING)	○ M.H.
MANHOLE (PROPOSED)	● M.H.
CATCH BASIN (EXISTING)	□ C.B.
CATCH BASIN (PROPOSED)	■ C.B.
DROP INLET (EXISTING)	□ D.I.
DROP INLET (PROPOSED)	■ D.I.
DRAINAGE PIPE (EXISTING)	(Label size & type)
DRAINAGE PIPE (PROPOSED)	(Label size & type)
UNDERDRAIN (EXISTING)	(Label size & type)
UNDERDRAIN (PROPOSED)	(Label size & type)
HEADER (EXISTING)	(Label size & type)
HEADER (PROPOSED)	(Label size & type)
OPEN DITCH (PROPOSED)	(Show Direction Of Flow)
STONE SLOPE PROTECTION	

## BOUNDARIES

RIGHT OF WAY LINE	
PROPERTY LINE	SMITH STANDISH
TOWN LINE	BOW CONCORD COOS
COUNTY LINE	GRAFTON
STATE LINE	MAINE NEW HAMPSHIRE
STONE BOUND	□ S.B.
IRON PIPE OR PIN	○ I.P.
NATIONAL FOREST	

## UTILITIES

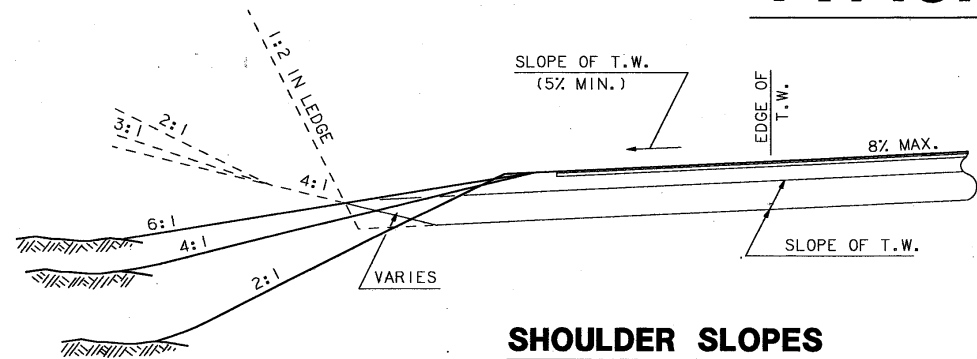
TELEPHONE OR TELEGRAPH POLE	●
POWER POLE	■
JOINT OCCUPANCY	■
POLE	▲
GUY POLE OR STUB	○
NOTE: Remove Or New As Applicable i.e.	R N + 22 15'
LIGHT POLE	○
LIGHT ON POWER POLE	○
LIGHT ON JOINT POLE	○
HYDRANT	○
MANHOLE	○
UNDERGROUND WATER (EXISTING)	—W— —W—
UNDERGROUND WATER (PROPOSED)	—PW— —PW—
UNDERGROUND SEWER (EXISTING)	—S— —S—
UNDERGROUND SEWER (PROPOSED)	—PS— —PS—
UNDERGROUND TELEPHONE (EXISTING)	—T— —T—
UNDERGROUND TELEPHONE (PROPOSED)	—PT— —PT—
UNDERGROUND ELECTRIC (EXISTING)	—E— —E—
UNDERGROUND ELECTRIC (PROPOSED)	—PE— —PE—
GATES & SHUTOFFS	○ (Label W.G., W.S.O., G.S.O., Etc.)
RAILROAD	— (Label Ownership)
RAILROAD SIGN	○
RAILROAD SIGNAL	○
SIGNAL CONDUIT (EXISTING)	—
SIGNAL CONDUIT (PROPOSED)	—
MAGNETIC DETECTOR SLEEVE	—MD—
LOOP DETECTOR	8'x10'
PULLBOX	□ P.B.
HANDHOLE	□ H.H.
CONTROLLER CABINET	□ C.C.
SPREAD FOOTING	8'
CYLINDRICAL FOUNDATION	○
MAST ARM POLE	○
STEEL SPAN WIRE POLES	○
PEDESTRIAN SIGNAL POLE	○
SIGNAL HEAD	○
TRAFFIC FLOW	→
STOP BAR	—
STREET LIGHT CONDUIT	—
LUMINAIRE	○
STORM DRAINAGE (FORMERLY SEWER)	—D— —D—
UNDERGROUND GAS (EXISTING)	—G— —G—
UNDERGROUND GAS (PROPOSED)	—PG— —PG—
ABANDONED GAS (EXISTING)	—AG— —AG—
OVERHEAD LINES:	
ELECTRIC, FIRE	—O-E, F, TV, T, TS— (EXISTING)
CABLE TV, TELEPHONE	—O-E, F, TV, T, TS— (PROPOSED)
TRAFFIC SIGNAL	—

## GENERAL CULTURE

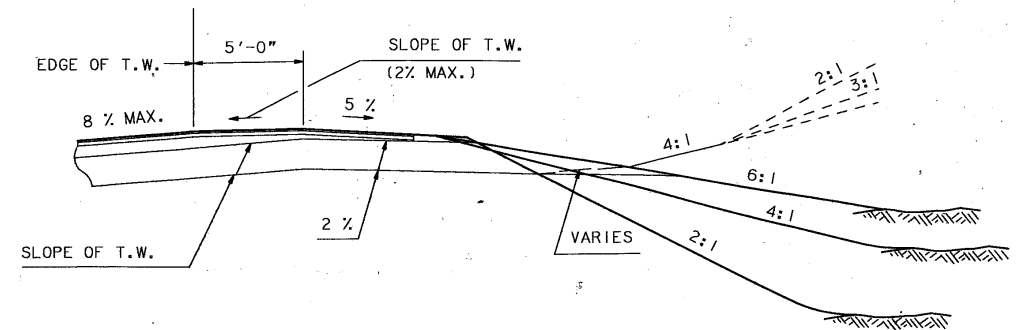
TRAVELED WAY	S.T.G.
DRIVEWAYS	Gravel
BUILDINGS	Porch
FOUNDATION	
GUARD RAIL	(PROPOSED) (EXISTING)
CURB (EXISTING)	B.G.R. C.G.R.
CURB (PROPOSED)	
STEPS AND WALK	
INTERMITTENT WATER COURSE	River (Stream)
SHORE LINE	
SWAMP, MARSH OR WETLANDS	
BRUSH (WOODS) LINE	
TREES (DECIDUOUS)	
TREES (CONIFEROUS)	
STUMPS	
ORCHARD	
HEDGE	
WELL	W
SEPTIC TANK	S
LEACHFIELD	Leach Field
GAS PUMPS	○
STORAGE TANKS	○
CEMETERY	Cem Or +
BRIDGE CROSSING STREAM	
HIGHWAY OVERPASS	
ROCK OUTCROP	
OLD GROUND (Typicals & Standards Only)	
ROCK LINE	
STONE WALL	Or
RETAINING WALL	(Points Toward High Ground)
FENCE (BARBED WIRE)	—x—x—x—x—
FENCE (OTHER)	—//—//—//—//—
SIGNS	

THE STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
STANDARD SYMBOLS			
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	4	45

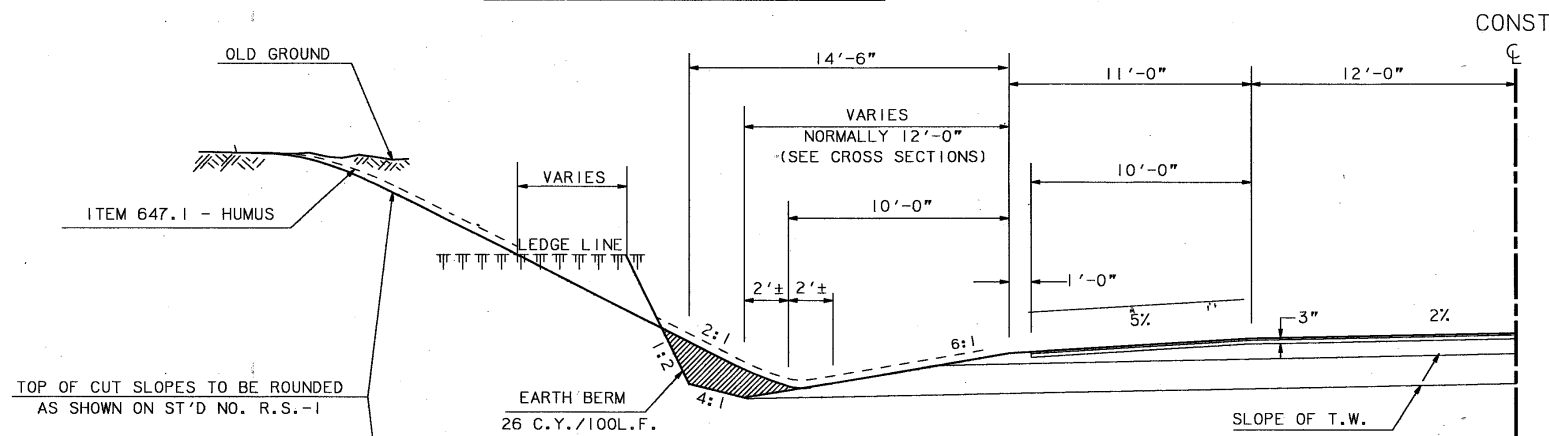
## TYPICAL SECTIONS OF IMPROVEMENT



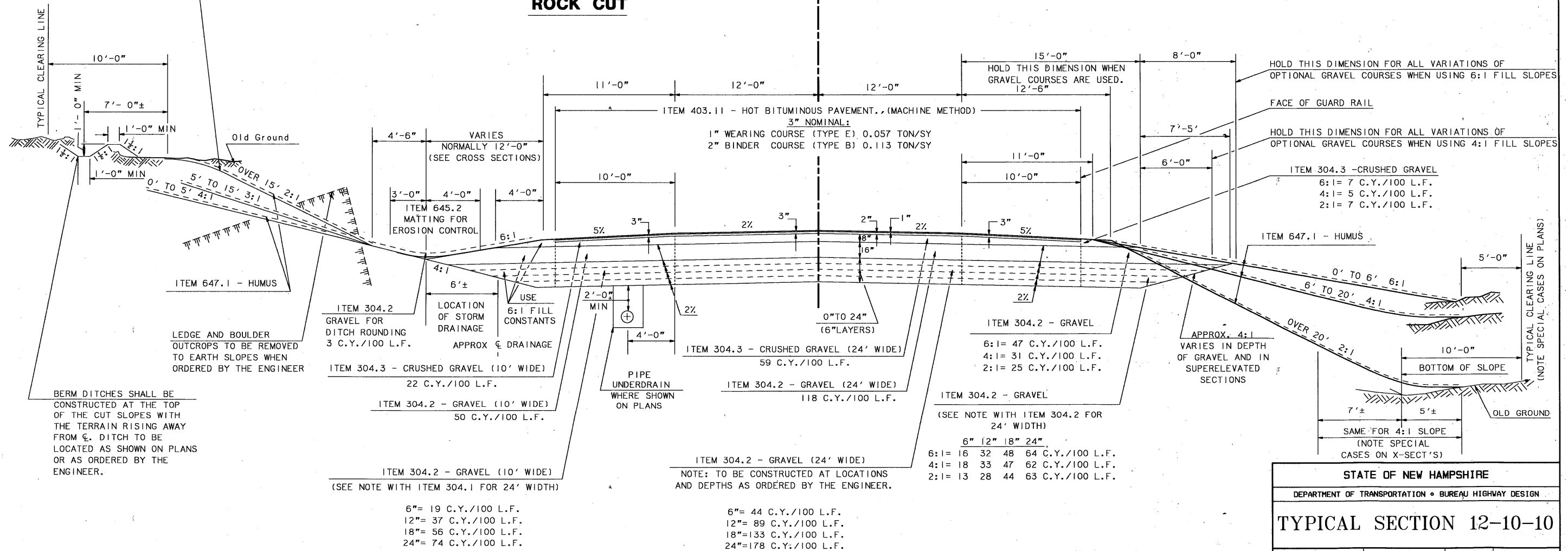
## SHOULDER SLOPES INSIDE BANKED CURVES



## SHOULDER SLOPES OUTSIDE BANKED CURVES



## ROCK CUT



STATE OF NEW HAMPSHIRE

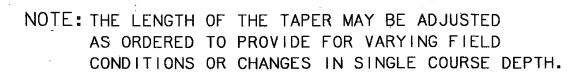
DEPARTMENT OF TRANSPORTATION • BUREAU HIGHWAY DESIGN

TYPICAL SECTION 12-10-10

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	5	45

EXISTING DETAIL		DATE				
PROPOSED DESIGN		DATE	9-8-90			
SHEET CHECKED		DATE				
AS BUILT DETAILS		DATE				

NOTEBOOKS		REVISIONS AFTER PROPOSAL			
BOOK	PAGE	NUMBER	DATE	STATION	STATION
BOOK	PAGE				
BOOK	PAGE				



### PAVEMENT MATCH TYPICAL



## MISCELLANEOUS TYPICAL

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	6	45

## LANDSCAPING & SLOPE PROTECTION

ITEM NO.	642.	643.12	644.44	644.6	645.11	645.2	645.51	647.1
ITEM	LIME-STONE	FERTILIZER FOR INITIAL APPLICATION	SLOPE SEED TY. 44	CROWN-VETCH	MULCH	MATTING FOR EROSION CONTROL	HAY BALES FOR TEMP. EROSION CONTROL	HUMUS
UNIT	TON	TON	LB.	LB.	AC.	S.Y.	EACH	C.Y.
LOCATION								
SLOPE PROTECTION	6.6	1.44	198	7.2	3.3	100	100	1552
	---	---	---	---	---	---	---	---
SUB-TOTAL	6.6	1.44	198	7.2	3.3	100	100	1552
ROUNDING	0.4	0.16	22	2.8	0.2	--	--	123
	---	---	---	---	---	---	---	---
TOTAL	7	1.6	220	10	3.5	100	100	1675

## FORCE ACCOUNT

STATE OF NEW HAMPSHIRE - PAVEMENT MARKING & SIGNING

## WORK BY OTHERS

## UNDERGROUND UTILITY CABLE RELOCATION

## INCIDENTAL ITEMS

ITEM NO.		UNIT	TOTAL
214.	FINE GRADING	UNIT	1
218.7	FLAGGERS	HOUR	750
219.1	MAINTENANCE OF TRAFFIC INCLUDING DUST LAYING	UNIT	1
621.21	REFLECTORIZED BGR DELINEATORS(WHITE)	EACH	16
621.31	SINGLE DELINEATORS WITH POST(WHITE)	EACH	22
622.1	STEEL WITNESS MARKERS	EACH	11
622.2	CONCRETE BOUNDS	EACH	15
692.	MOBILIZATION	UNIT	1
698.12	FIELD OFFICE TYPE B	UNIT	1
698.2	PHYSICAL TESTING LABORATORY	UNIT	1
699.	TEMPORARY PROJECT WATER POLLUTION CONTROL	\$	1
1008.	ALTERATIONS AND ADDITIONS AS NEEDED	\$	1

## MATERIALS SALVAGED TO THE STATE

EXISTING PIPES

EXISTING BEAM GUARDRAIL

ANCHORAGES FOR BEAM GUARDRAIL

A

## GUARDRAIL

ITEM NO.	606.140	606.143	606.146S	606.417	606.821	606.86	SUBSTID.	634.
ITEM	BEAM GUARD RAIL STD. SECTION (BR-140)	BEAM GUARD RAIL INCL. TERM. SECT. (BR-143)	BEAM GUARD RAIL TERM. UNIT TY. F-1 (6R-146S)	PORT. CONC. BARRIER FOR TRAFFIC CONTROL	REMOVING ANCH. FOR TERMINAL 'F' UNITS	TYPE 'J' ANCH. FOR BEAM GUARD RAIL	REMOVAL OF EXIST. BEAM GUARD RAIL	BOULDER FOR GUARD RAIL
UNIT LOCATION	L.F.	L.F.	UNIT	L.F.	EA.	EA.	L.F.	
ROUTE 302				990.50				
STA. 302+56.5 - 304+69.RT.	327.5			180				
STA. 303+06.5 - 304+69.LT.	287.5							
STA. 306+31 - 307+93.5.RT.	287.5							
STA. 306+31 - 308+70.LT.	222.90	42.48						
STA. 304+30 - 304+35.LT.					2			
STA. 306+65 - 306+85.LT.					2			
STA. 304+30 - 305+00.LT.							140	
STA. 305+85 - 306+85.LT.							175	
STA. 2+97±, PAVED PARK AREA								4
SUB-TOTAL	512.5	43	3	200	4	1	315	4
ROUNDING	37.5	7						4
TOTAL	550	50	3	200	4	1	315	8
66 RAIL TOTALS	522.4	42.8	3	150	✓	✓		✓

## SUBSIDIARY ITEMS

CONSTRUCT WATERTIGHT CONNECTIONS BETWEEN EXISTING AND PROPOSED PIPES.

CONSTRUCT UL-4 HEADER

REMOVAL OF EXISTING BEAM GUARDRAIL

REMOVAL OF EXISTING PIPES WHEN IN PROPOSED PIPE TRENCH

NOTE: THIS SUMMARY SHOULD NOT BE CONSIDERED A COMPLETE LIST OF  
SUBSIDIARY WORK PRESENT IN THIS PROJECT. REFER ALSO TO THE PLANS,  
PROPOSAL, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS.

## PAVEMENT MARKING

ITEM NO.	619.41	619.51	619.91	632.0104	632.0304	632.0504	632.08
ITEM	SHORT TERM PAVE.MARK. TAPE,ALLUM. FOIL	SHORT TERM PAVE.MARK. TAPE,60 MIL. REMOVABLE	REMOVAL OF PAVE. MARKINGS	REFL.PAINT PAVE.MARK. SINGLE SOLID LINE 4"	REFL.PAINT PAVE.MARK. DOUBLE SOLID LINE 4"	REFL.PAINT PAVE.MARK. DOUBLE LINE 4" (W/BROKEN LINE)	REFL.PAINT PAVE.MARK. SINGLE LEGEND (HANDICAPPED SY
UNIT	LF	LF	LF	LF	LF	LF	EA.
STA.99+50 - 317+50,LT.& RT.	500	2500	5000	3800	1250	650	1
STA.306+30 - 309+00,LT. (PARKING AREA)				270			
SUB-TOTAL ROUNDING	500	2500	4000	4070 280	1250 50	650 50	1
TOTAL	500	2500	4000	4350	1300	700	1

## SURFACING MATERIALS

ITEM NO.	304.2	304.3	304.35	403.11	403.12	417.	628.2
ITEM	GRAVEL	CRUSHED GRAVEL	CR. GR. FOR UNPAVED DRIVES	HOT BIT. PAVEMENT (MACHINE METHOD)	HOT BIT. PAVEMENT (HAND METHOD)	COLD PLANNING OF BIT. SURFACES	SAVED BITUMINOUS CONCRETE PAVEMENT
UNIT	C.Y.	C.Y.	C.Y.	TON	TON	S.Y.	L.F.
LOCATION							
ROUTE 302	5332	2037		1488		178	64
PAVED PARK.AREA		488		128			
DRIVES			25		3		
WINTER PARK.AREA	250						
SUB-TOTAL	5582	2525	25	1616	3	178	64
ROUNDING	418	225	5	134	2	12	6
TOTAL	6000	2750	30	1750	5	190	70

## CURBING

ITEM NO.	609.81	609.81
ITEM	STRAIGHT CURB, GRANITE CURB A	BIT. CONC. CURB, UNPAINTED
UNIT	L.F.	L.F.
LOCATION		
STA. 304+00 - 304+66, L.T.		66
STA. 304+00 - 304+66, R.T.		66
STA. 304+66 - 305+00, L.T.	34	
STA. 304+66 - 305+00, R.T.	34	
STA. 306+00 - 306+34, L.T.	34	
STA. 306+00 - 306+34, R.T.	34	
STA. 1+25-2+65, L.T. PAVED PARK AREA		137
SUB-TOTAL	136	269
ROUNDING	14	31
TOTAL	150	300

## CLEARING/GRUBBING

ITEM NO.		201.1
THE AREAS LISTED BELOW ARE SHOWN ON THE PLANS SHEETS BY LETTER ID'S		CLEARING AND GRUBBING
	UNIT	DSGNTD.
LOCATION	AREA	ACRE
STA. 99+40 - 305+20, L.T.	A	.60
STA. 99+40 - 301+85, RT.	B	.17
STA. 306+00 - 312+00, RT.	C	.72
STA. 306+20 - 306+75, L.T.	D	.01
STA. 312+40 - 315+83, L.T.	E	.27
STA. 311+93 - 313+78, RT.	F	.05
STA. 313+95 - 317+78, RT.	G	.19
STA. 316+20 - 317+85, L.T.	H	.10
WINTER PARK, AREA	I	.15
SUB-TOTAL		2.26
ROUNDING		.24
TOTAL		2.50

## DRAINAGE

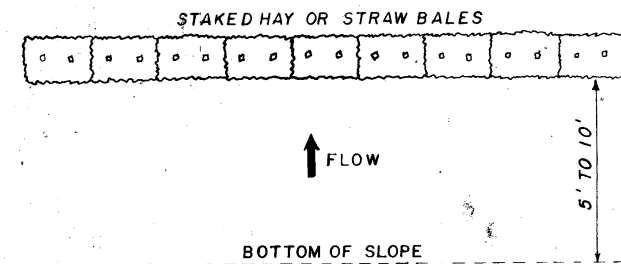
ITEM NO.	202.41	202.5	206.1	206.2	SUBSID.	SBS.3	603						604.11	604.242	605.906	REMARKS
ITEM	REMOVAL OF EXIST. PIPE 0" - 24" DIA.	REMOVAL OF CB'S, DI'S AND MANHOLES	COMMON STRUCT. EXCAV.	ROCK STRUCT. EXCAV.	MORTAR RUBBLE MASONRY	STONE FILL CLASS 'C'	.00215 15" RCP 1 S.E.	.11012 12" CSP 1 S.E.	.11015 15" CSP 1 S.E.	.30115 15" R.C. 1 S.E.	.34112 STEEL END SECT. FOR 12" PIPE 1SE	.34115 STEEL END SECT. FOR 15" PIPE 1SE	.49012 12" PIPE FOR SLOPE DRAIN. 1SE	CATCH BASINS TYPE A	DROP INLETS TYPE D-B	
UNIT LOCATION																
99+00, LT. - 301+00, RT.																
301+00, LT. & RT.	44 ✓	2 ✓		5 1352.5			16.55		182.5 200					2 1		200
301+00 - 303+00, LT.																
301+00 - 304+30, LT.	275 280			6 12.8	1 ✓	5			127 200							
301+00 - 303+75, RT.																
303+00 - 305+00, LT.																200
303+00 - 304+00, RT				26.1		2.13										
304+75, LT. & RT.			15	1.2		2	44 50	31 30		2	2		3552		2	
311+00, LT. & RT.			14						2	2						
315+84 - 316+22, RT.																
SUB-TOTAL	319 21	2	29	31.8 2.7	1	3.5 15	155 15	30 7	400 30	1	4	1	4752 8	3	2	490 25
TOTAL	340 24	2	35		1	5 100	160 2	45 35	430 299.5	1 2	4 4	1	50 82	3 3	2 2	515 71.5
AS BUILT TOTALS																

NOTE: GRANULAR BACKFILL FOR UNDERDRAIN SHALL CONFORM TO 209.2.1.1, 2

NOTE: GRANULAR BACKFILL FOR UNDERDRAIN SHALL CONFORM TO 209.2.1.1.2

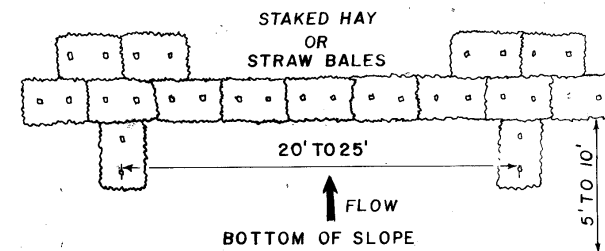
"AS- BUILT TOTALS"

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	7	45



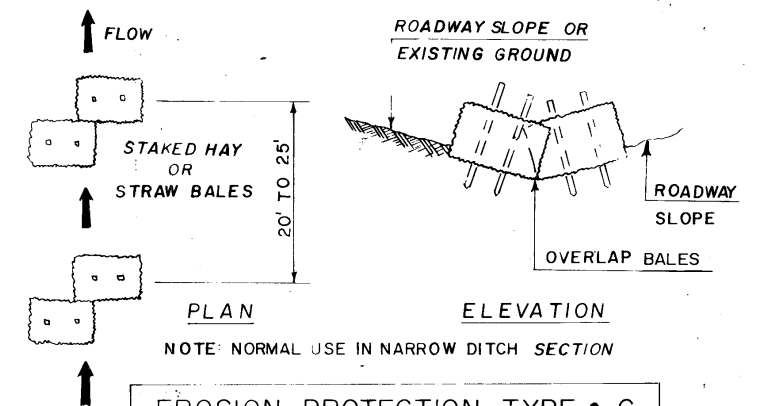
NOTE: NORMAL USE AT BOTTOM OF FILL SLOPE

EROSION PROTECTION TYPE • A

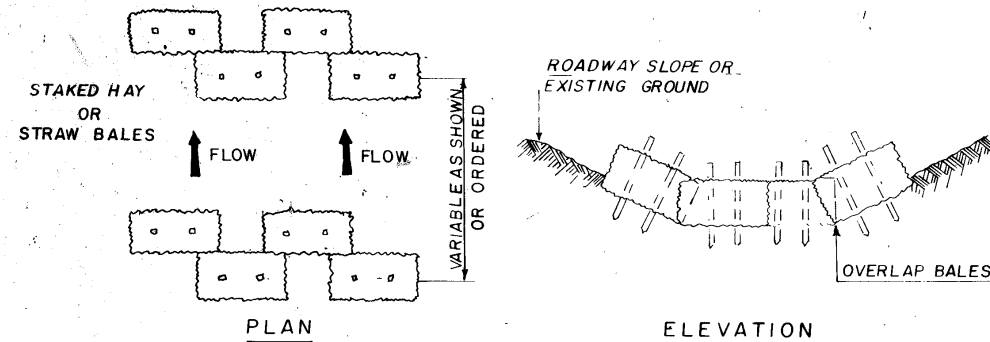


NOTE: NORMAL USE AT BOTTOM OF FILL SLOPE WHERE HEAVY FLOW MAY BE ANTICIPATED.

EROSION PROTECTION TYPE • B

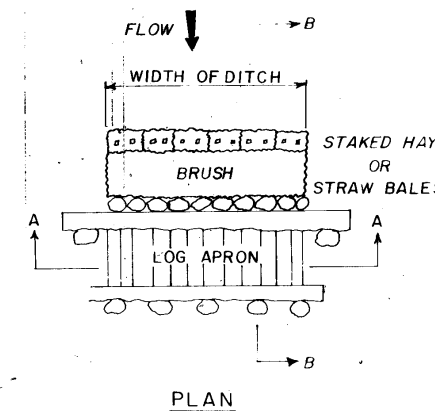


EROSION PROTECTION TYPE • C



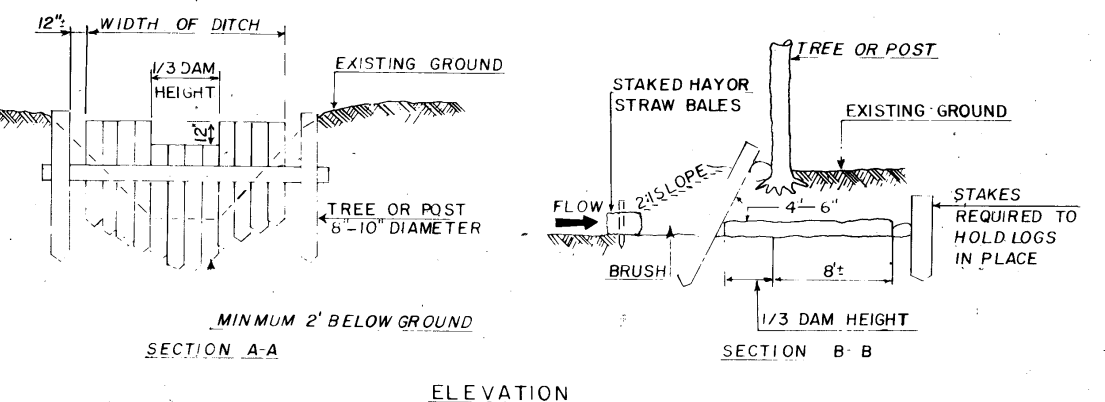
NOTE: NORMAL USE IN WIDE DITCH SECTION

EROSION PROTECTION TYPE • D



NOTE: NORMAL USE IN, OR JUST UPSTREAM OF WATER COURSE

EROSION PROTECTION TYPE • E



# GENERAL NOTES

- BALED HAY AND STRAW WILL BE PAID UNDER ITEM 64551
- STAKES TO HOLD BALES SHALL BE 2" BY 2" OR EQUIVALENT SAPLINGS AND SHALL BE LONG ENOUGH TO EXTEND 1 FOOT MINIMUM INTO THE GROUND. STAKE, LOGS, AND BRUSH WILL BE SUBSIDIARY
- BALES SHALL BE SET 3+ INCHES BELOW GROUND SURFACE OR AS ORDERED. ANY REQUIRED EXCAVATION TO SET BALES WILL BE SUBSIDIARY
- HAY BALES WILL BE ALLOWED TO ROT IN PLACE EXCEPT IN HIGHLY VISIBLE AREAS WHERE THE ENGINEER MAY ORDER REMOVAL AS SUBSIDIARY WORK

REVISIONS AFTER PROPOSAL

NUMBER DATE STATION

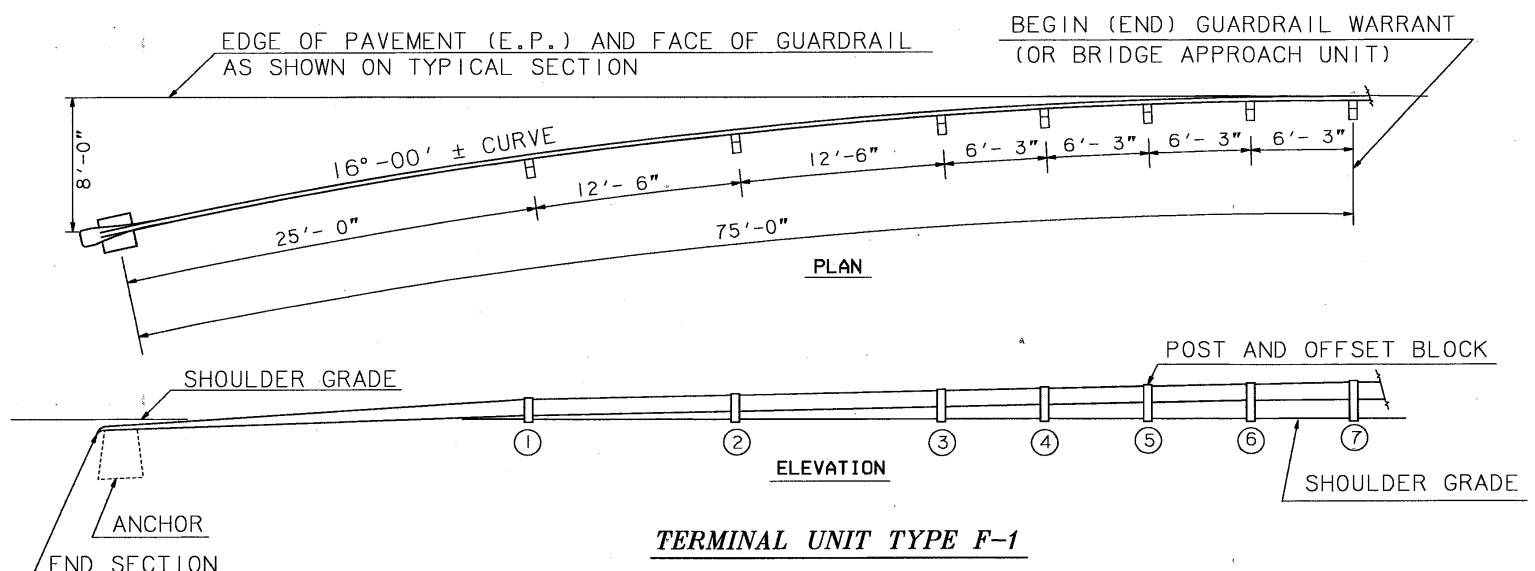
NOTEBOOKS

BOOK PAGE

DATE 8-20-90

W/JH

EXISTING DETAIL  
PROPOSED DESIGN  
SHEET CHECKED  
AS BUILT DETAILS

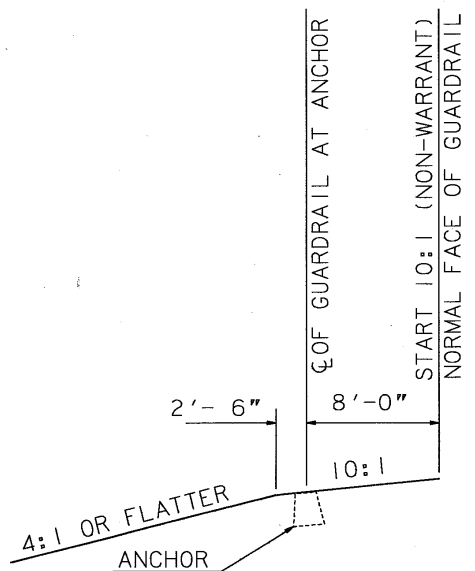
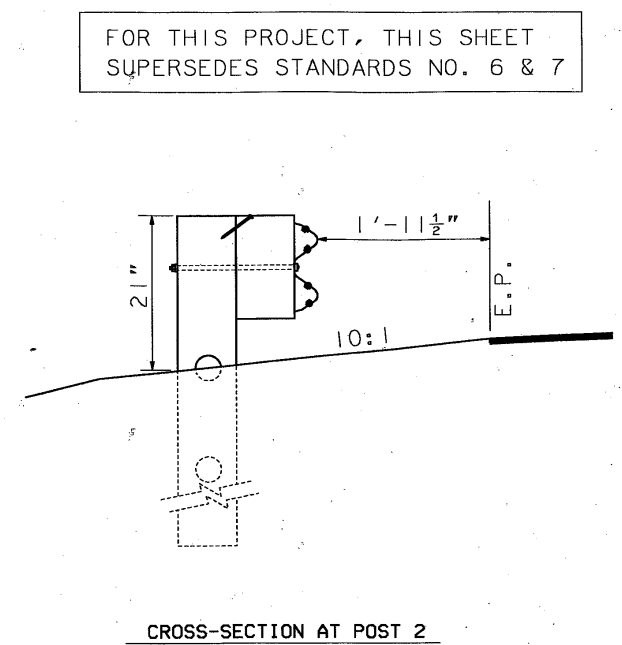


TERMINAL UNIT TYPE F-1

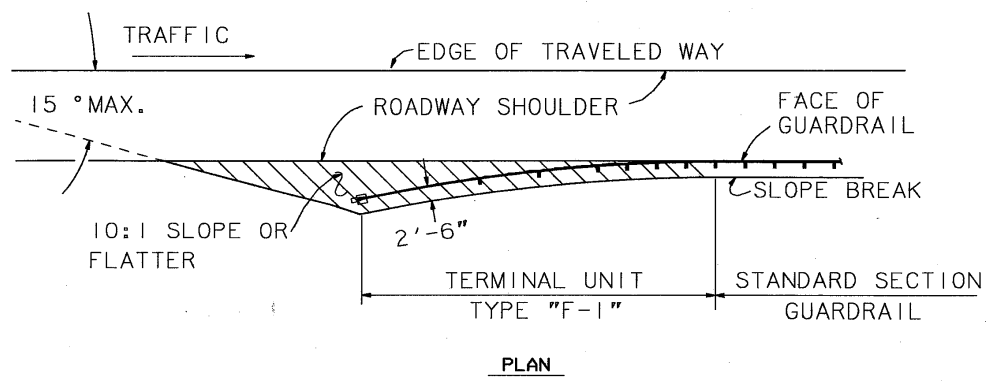
ITEM NO. 606.1465 - BEAM GUARDRAIL (TERMINAL UNIT TYPE F-1) GR-1465  
PAID: LUMP SUM, INCLUDING END SECTION AND ANCHOR  
USE: AT BEGINNING OR END OF SECTION FOR WARRANTED GUARDRAIL  
(DO NOT USE WITHIN WARRANT LIMITS)

POST LAYOUT			
POST NO.	HORIZONTAL DISTANCE (FROM POST 7)	OFFSET TO FACE OF RAIL (FROM E.P.)	POST HEIGHT *
1	49'-10"	3'-6"	18"±
2	37'-5"	1'-11 1/2"	21"±
3	24'-11 1/2"	10 1/2"	24"±
4	18'-9"	6"	25 1/2"±
5	12'-6"	2 1/2"	27"±
6	6'-3"	1/2"	28 1/2"±
7	0'	0'	30"±

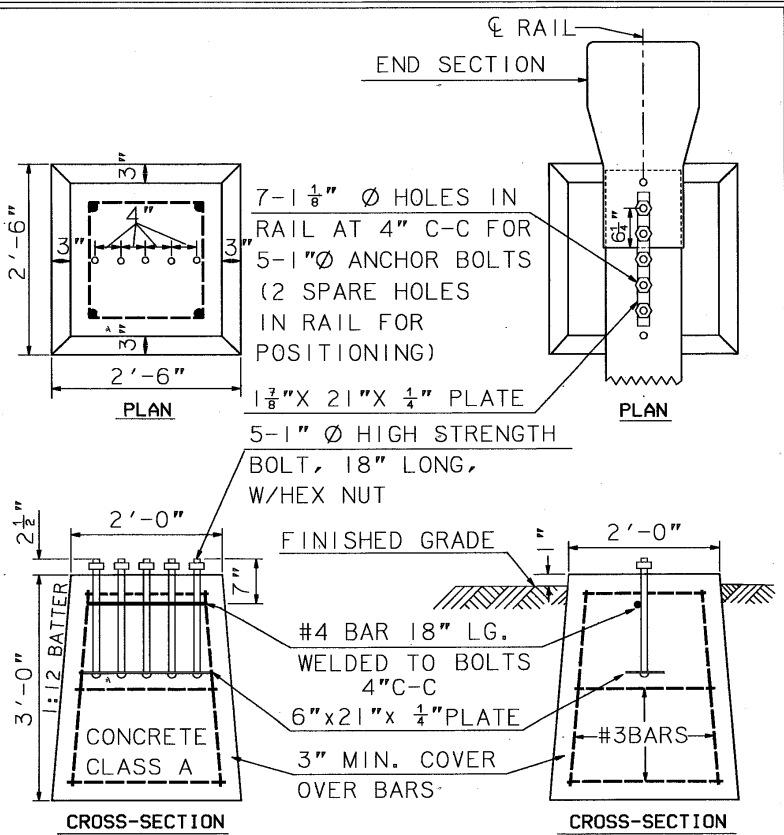
\* POST HEIGHT SHALL BE MEASURED FROM FINISHED GRADE AT BACK OF POST



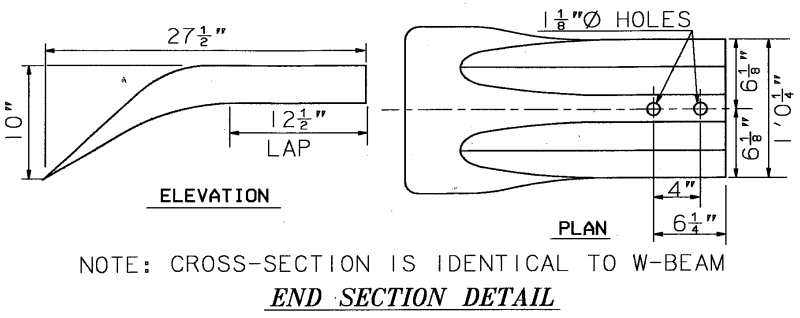
CROSS-SECTION AT ANCHOR



TYPICAL SLOPE AT BEAM GUARDRAIL  
TERMINAL "F-1" ANCHOR

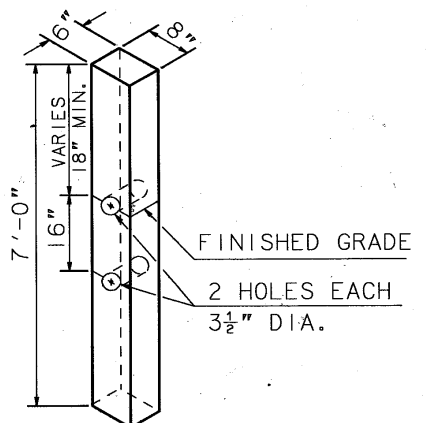


ANCHOR DETAIL FOR TERMINAL UNIT TYPE F-1



NOTE: CROSS-SECTION IS IDENTICAL TO W-BEAM  
END SECTION DETAIL

NOTE: THE FOLLOWING OPTIONS MAY BE USED.  
1. DRIVE POST AND EXCAVATE SUFFICIENTLY TO DRILL BOTH HOLES.  
2. PRE-DRILLED POST. (SHALL NOT BE DRIVEN)

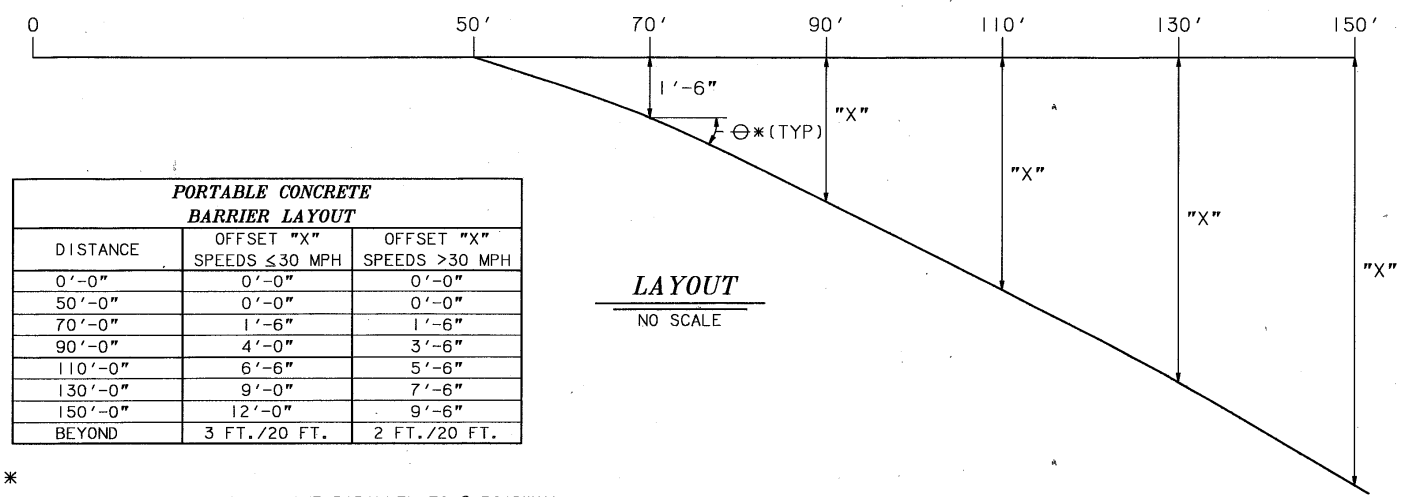


FOR POSTS 1 THRU 6

WOOD POST MODIFICATION



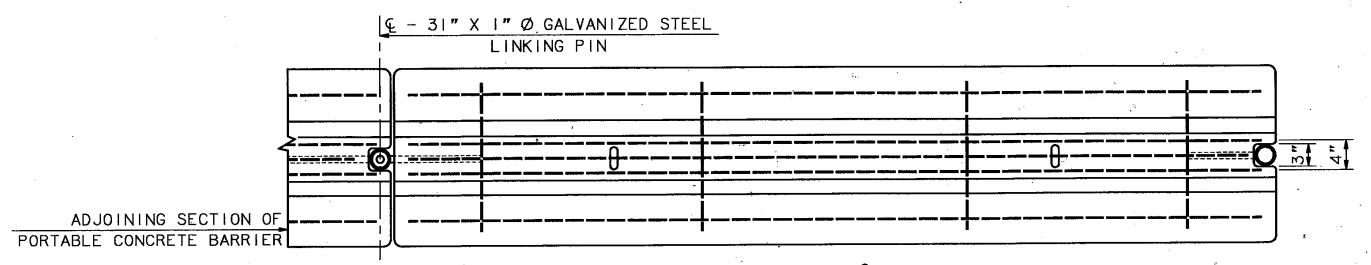




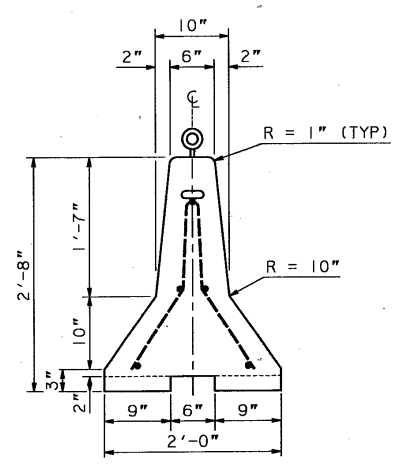
- \*(1) MEASURE OFFSETS FROM LINE PARALLEL TO  $\phi$  ROADWAY.  
(2) FOR OPERATING SPEEDS:  $\geq$  50 MPH, MAX  $\phi = 5.7^\circ$  (10:1 TAPER RATE) USE FOR SPEEDS  $>$  30 MPH.  
(3) FOR OPERATING SPEEDS:  $\leq$  30 MPH, DESIRABLE  $\phi = 8.1^\circ$  (7:1 TAPER RATE)

LAYOUT NOTES FOR PORTABLE CONCRETE BARRIER

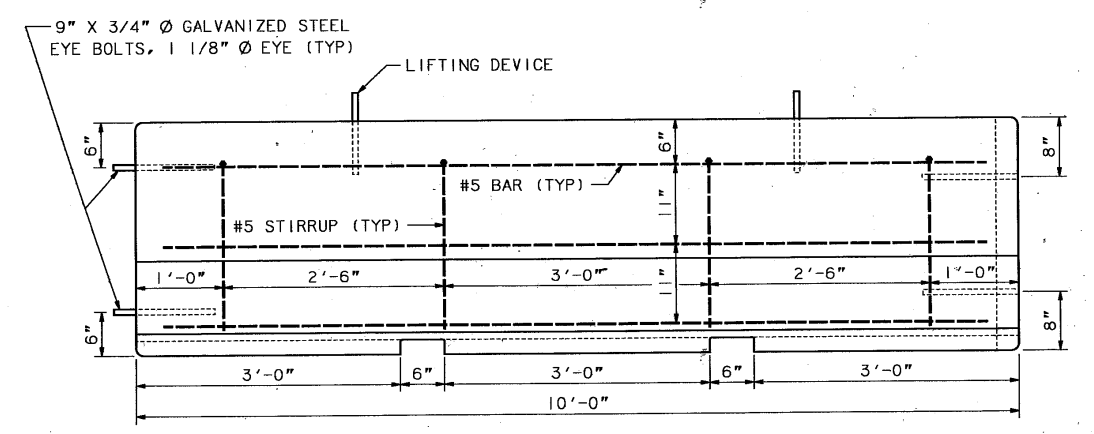
- (1) OFFSETS SHOWN IN THE ABOVE CHART ARE FROM A LINE PARALLEL TO THE ROADWAY CENTERLINE, WHETHER ON A CURVE OR TANGENT SECTION.  
(2) USE  $\leq 30$  MPH CHART VALUES FOR BARRIER LAYOUT.  
(3) CONCRETE BARRIER RAIL SHALL BE FURNISHED BY THE CONTRACTOR AND PAID AS ITEM 606.417, PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL.  
(4) THE CONTRACTOR SHALL FURNISH AND INSTALL APPROVED REFLECTIVE DELINEATORS AT 25 FOOT INTERVALS ALONG THE TRAFFIC FACE OF THE PORTABLE CONCRETE BARRIER. ALL COSTS SHALL BE INCLUDED IN ITEM 606.417.  
(5) TEMPORARY LIGHTS SHALL BE 250 WATT HIGH PRESSURE SODIUM LUMINAIRES WITH 40 FOOT MOUNTING HEIGHT, 12 FOOT BRACKET ARMS, AND AERIAL WIRING. PAY UNDER ITEM 1008.



PLAN VIEW  
SCALE: 1"=1'-0"

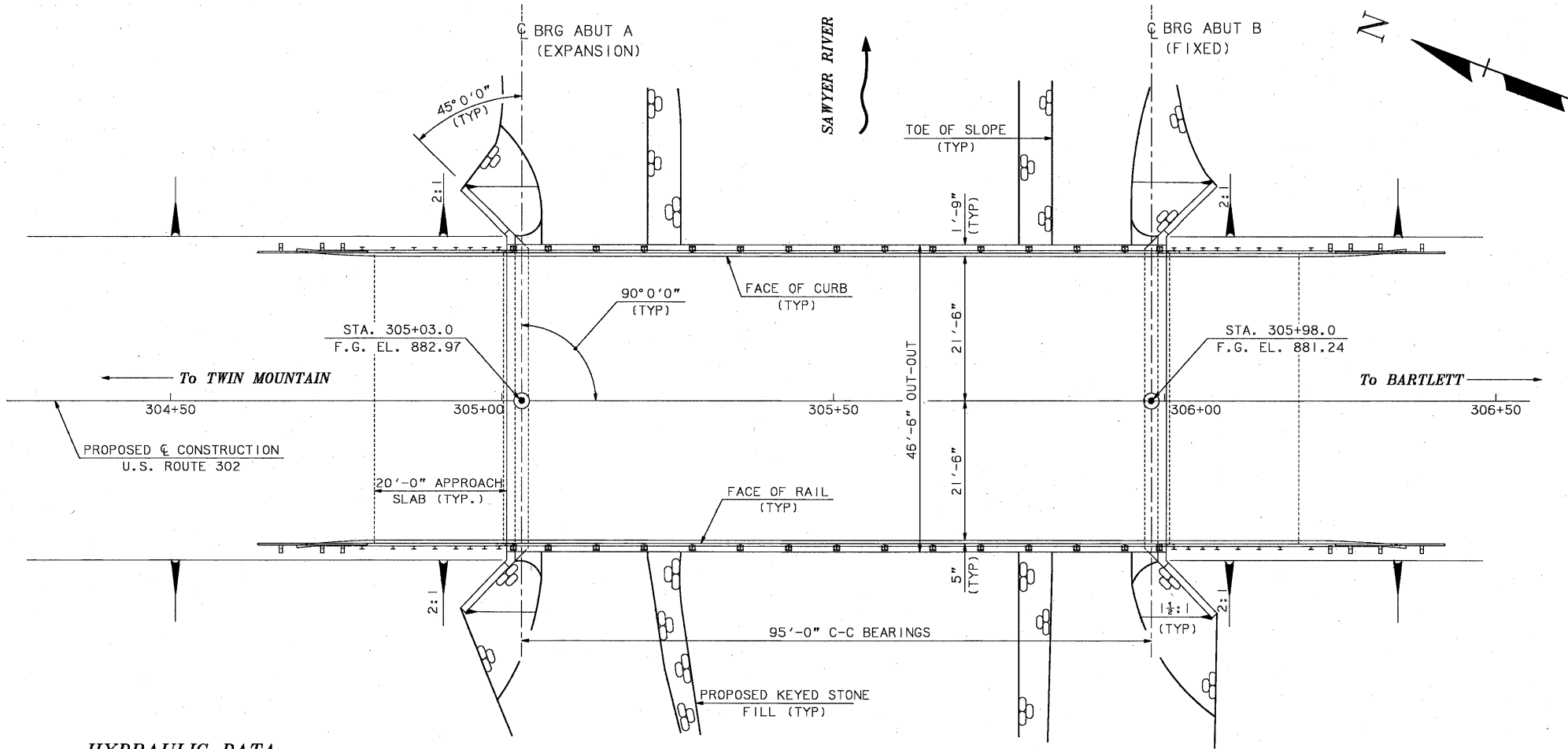


END VIEW  
SCALE: 1"=1'-0"



ELEVATION  
SCALE: 1"=1'-0"

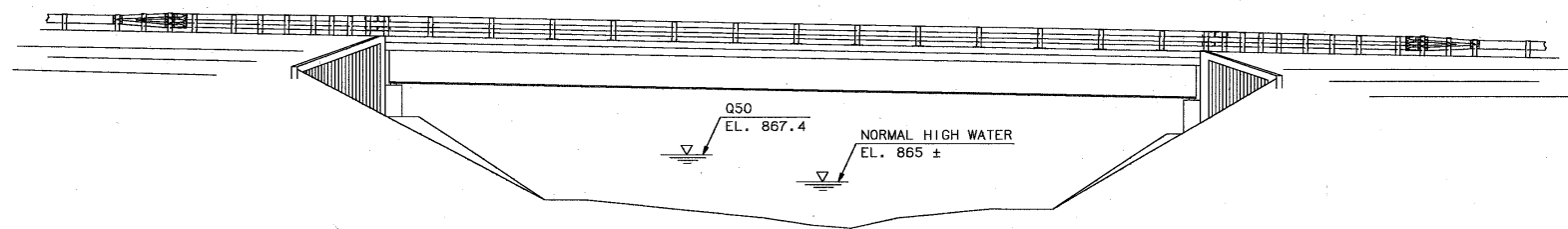
PORTABLE CONCRETE BARRIER DETAILS



### HYDRAULIC DATA

- (1) DRAINAGE AREA: 23.85 SQ. MI.
- (2) DESIGN FLOOD: Q50 = 7200 cfs EL. 867.4
- (3) DESIGN VELOCITY: 15.2 fps
- (4) BRIDGE WATERWAY OPENING: 460 SQ. FT. BELOW Q50 ELEVATION 867.4

### PLAN



### ELEVATION

### GENERAL NOTES

- (1) DESIGN LOADING: HS25-44 AS MODIFIED FOR 125% OF MILITARY LOADING.
- (2) SPECIFICATIONS: AASHTO 1989 WITH INTERIMS  
NHDOT 1983 STANDARD SPECIFICATIONS AS AMENDED
- (3) FOUNDATION DATA: ABUTMENTS A & B - REINFORCED CONCRETE SPREAD FOOTINGS  
DESIGN FOUNDATION PRESSURE=3 TONS/SF
- (4) REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60  
DECK REINFORCING STEEL SHALL BE EPOXY COATED
- (5) STRUCTURAL STEEL: AASHTO M270 GR 50W (ASTM A709, GR 50W), UNPAINTED
- (6) CONCRETE: BRIDGE DECK & ABUTMENT BACKWALLS:  $f'c = 4,000$  psi  
ABUTMENTS & FOOTINGS:  $f'c = 3,000$  psi
- (7) UTILITIES (BY OTHERS):  
2 - 4" CONDUITS (TELEPHONE) ON UPSTREAM SIDE OF BRIDGE.  
1 - 4" CONDUIT (ELECTRICAL) ON UPSTREAM SIDE OF BRIDGE.
- (8) FOR SURVEY LAYOUT SEE BR. SHEET 2 OF 20.

### SUMMARY OF BRIDGE QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
207.3	UNCLASSIFIED CHANNEL EXCAVATION	650	CY
209.1	GRANULAR BACKFILL (BRIDGE)	700	CY
403.911	HOT BITUMINOUS BRIDGE PAVEMENT, 1" BASE COURSE, WITH POLYESTER FIBER	27	TON
502.	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	U
503.2	COFFERDAMS	1	U
504.1	COMMON BRIDGE EXCAVATION	541	CY
504.2	ROCK BRIDGE EXCAVATION	180	CY
508.	STRUCTURAL FILL	52	CY
520.12	CONCRETE CLASS A ABOVE FOOTINGS (EST. 194 CY)	1	U
520.13	CONCRETE CLASS A, APPROACH SLABS	65.2	CY
520.21	CONCRETE CLASS B, FOOTINGS	109.3	CY
520.7	CONCRETE BRIDGE DECK (EST. 135 CY)	1	U
534.3	WATER REPELLENT (SILANE - SILOXANE)	14	GAL
537.	CONCRETE SEALER	20	GAL
538.1	BARRIER MEMBRANE	476	SY
538.2	BARRIER MEMBRANE, VERTICAL SURFACES	88	SY
541.2	PVC WATERSTOPS, NH TYPE 2	39	LF
541.5	PVC WATERSTOPS, NH TYPE 5	93	LF
544.	REINFORCING STEEL	41,098	LB
544.2	REINFORCING STEEL-EPOXY COATED	41,611	LB
547.	SHEAR CONNECTORS (1,350 TOTAL)	1	U
550.1	STRUCTURAL STEEL (EST. 132,000 LBS.)	1	U
550.2	BRIDGE SHOES	1	U
562.1	ELASTOMERIC SEALANT	65	CI
563.12	BRIDGE RAILING, ST	199	LF
565.12	BRIDGE APPROACH RAIL, ST	124	LF
587.1	KEYED STONE FILL	887	CY
609.3	STRAIGHT GRANITE CURB (BRIDGE)	199	LF

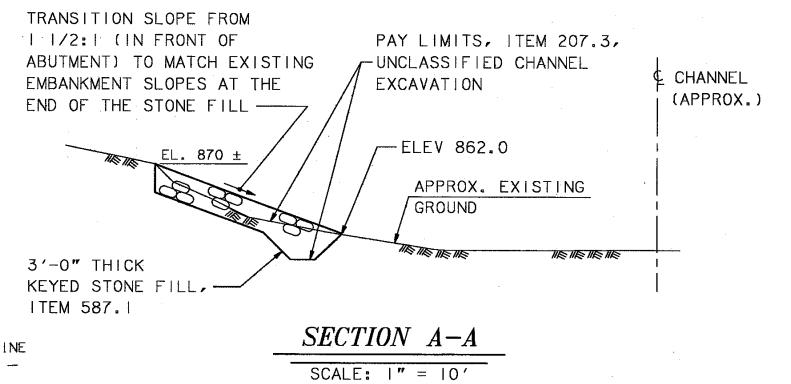
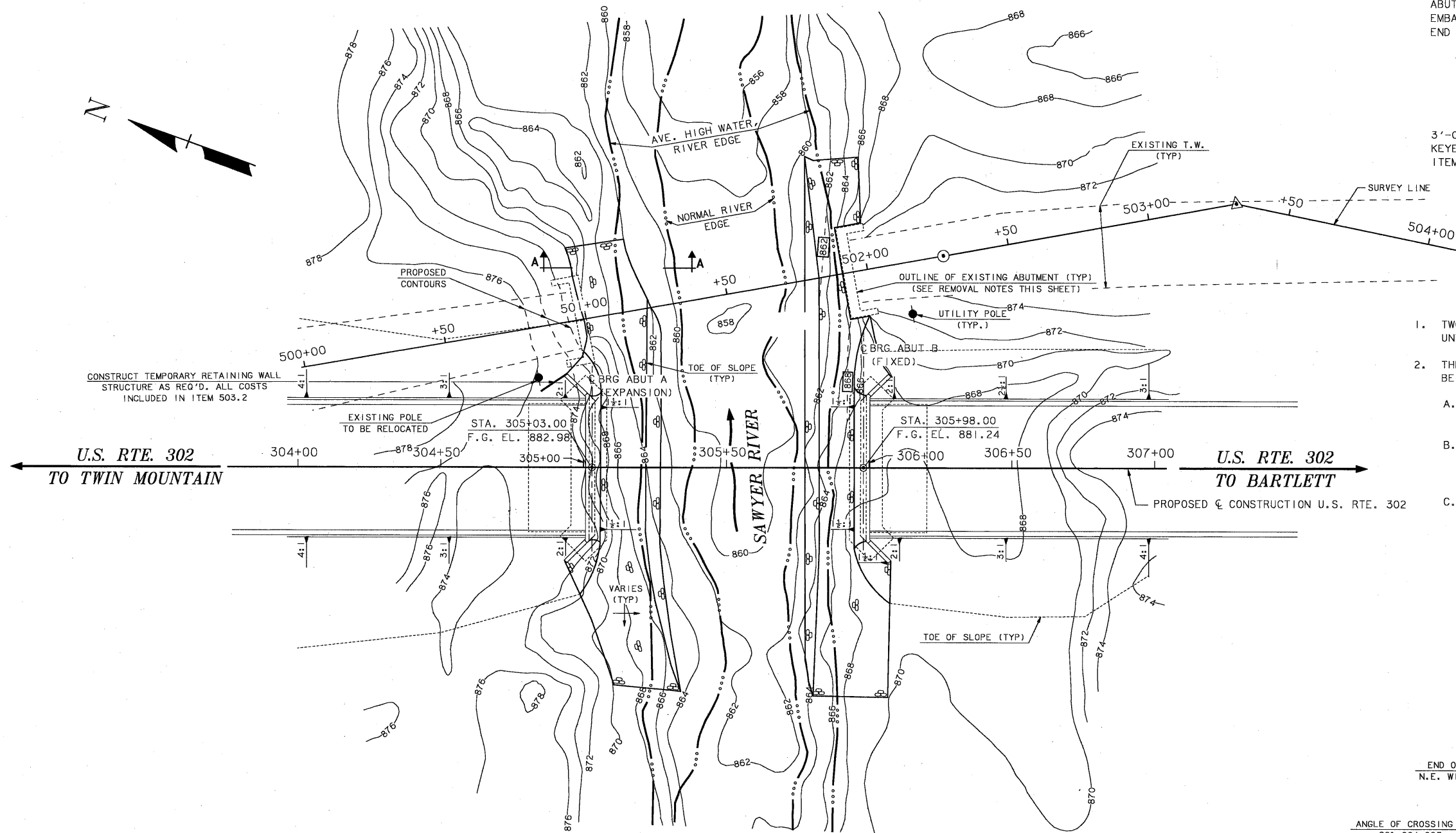
### STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION \* BUREAU OF BRIDGE DESIGN

TOWN HARTS LOCATION BRIDGE NO. 235/059 STATE PROJECT P-4366  
LOCATION U.S. 302 OVER SAWYER RIVER

### GENERAL PLAN AND ELEVATION

DESIGNED	JCA	3/90	CHECKED	ABP	6/90	REVISIONS AFTER PROPOSAL	DATE	BRIDGE SHEET	1 OF 20
DRAWN	TPL	2/89	CHECKED	ABP	6/90			FILE NUMBER	2-6-2-3
QUANTITIES	JCA	7/90	CHECKED	ABP	8/90			TOTAL SHEETS	45

WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
GENPLAN	GENPLAN	BR-SITE.FGB	3/32"= 1'-0"

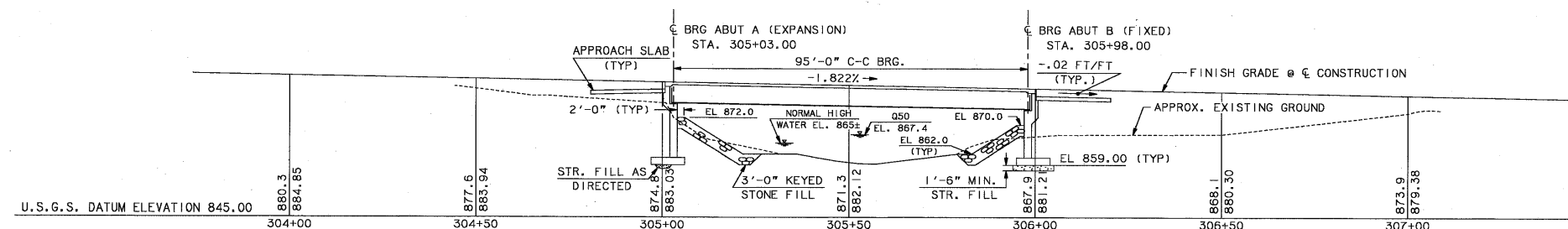


### REMOVAL OF EXISTING STRUCTURE:

- TWO LANES OF TRAFFIC SHALL BE MAINTAINED ON THE EXISTING BRIDGE UNTIL THE PROPOSED BRIDGE IS COMPLETED AND OPENED TO TRAFFIC.
- THE EXISTING BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE SHALL BE REMOVED AS FOLLOWS:
  - THE ENTIRE EXISTING SUPERSTRUCTURE SHALL BE REMOVED AND PAID UNDER REMOVAL OF EXISTING BRIDGE STRUCTURE, ITEM 502.
  - EXISTING SOUTH ABUTMENT SHALL BE REMOVED TO EL. 870 ± AND THE ABUTMENT BACKFILL CUT BACK @ 4:1 SLOPE. REMOVAL OF ABUTMENT TO BE PAID UNDER ITEM 502.
  - EXISTING NORTH ABUTMENT SHALL BE REMOVED TO 4' BELOW FINAL GROUND ELEVATIONS. REMOVAL COSTS TO BE PAID UNDER REMOVAL OF EXISTING BRIDGE STRUCTURE ITEM 502. IF THERE ARE PORTIONS OF THE EXISTING NORTH ABUTMENT WITHIN THE LIMITS OF REMOVAL FOR THE PROPOSED STRUCTURE, THEY SHALL BE REMOVED IN THEIR ENTIRETY UNDER ROCK BRIDGE EXCAVATION, ITEM 504.2.

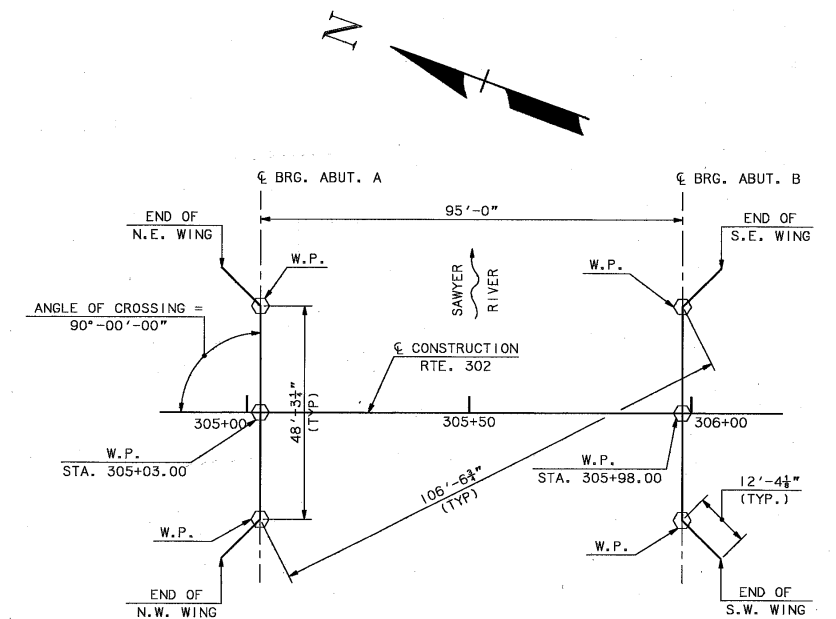
### SITE PLAN

SCALE: 1" = 20'



### PROFILE AT & CONSTRUCTION

SCALE: 1" = 20'

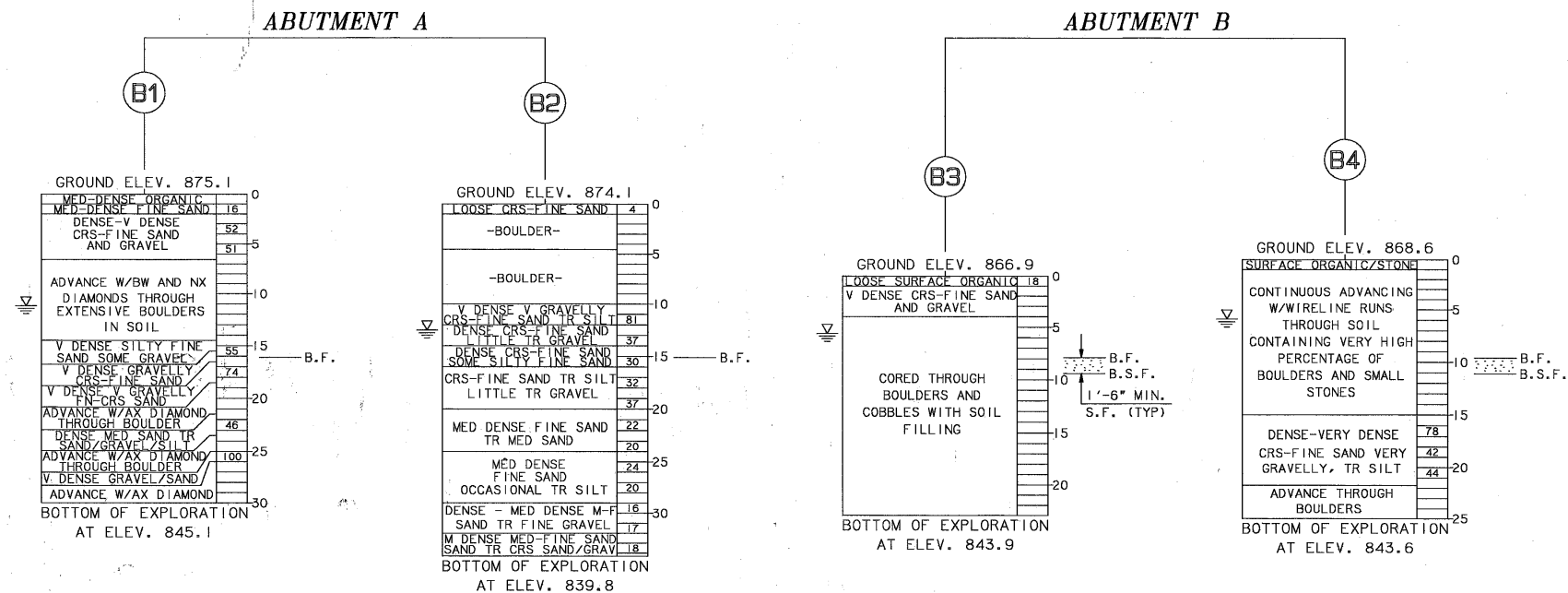


### SURVEY LAYOUT

SCALE: 1" = 20'

STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366	
LOCATION			U.S. 302 OVER SAWYER RIVER							
SITE PLAN								BRIDGE SHEET		
	BY	DATE		BY	DATE	REVISIONS AFTER PROPOSAL		DATE	2 of 20	
DESIGNED	JCA	3/90	CHECKED	ABP	6/90				FILE NUMBER	
DRAWN	CAC	8/89	CHECKED	ABP	6/90				2-6-2-3	
TRACED			CHECKED			FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS	
QUANTITIES	JCA	7/90	CHECKED	ABP	6/90	BRF-032-1 (20)		14	45	

WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
SITEPLAN	SITEPLAN	BR-SITE	AS NOTED

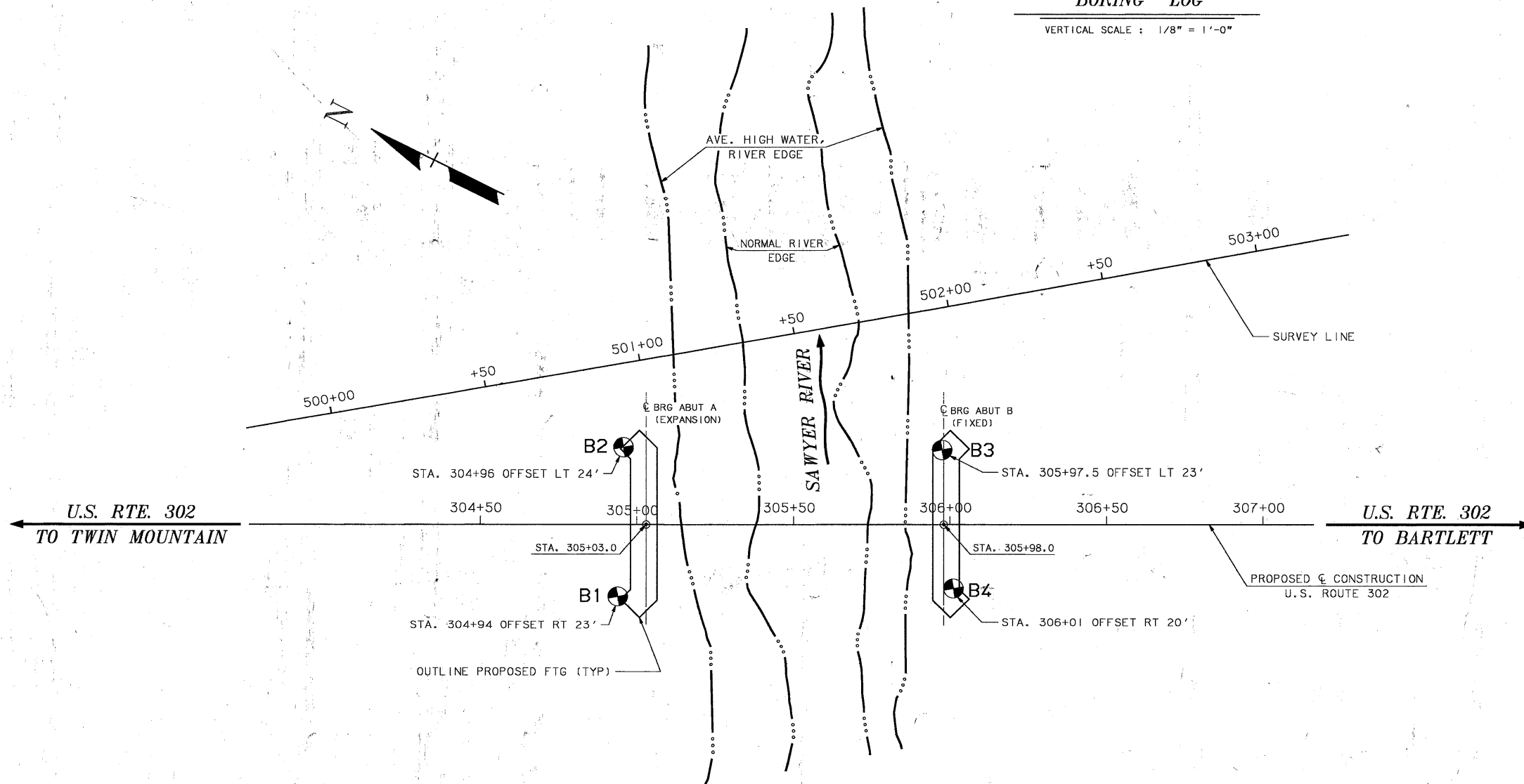


### BORING LOG

VERTICAL SCALE : 1/8" = 1'-0"

B.F. = BOTTOM OF FOOTING (ELEV 859.00)

B.S.F. = BOTTOM OF STRUCTURAL FILL

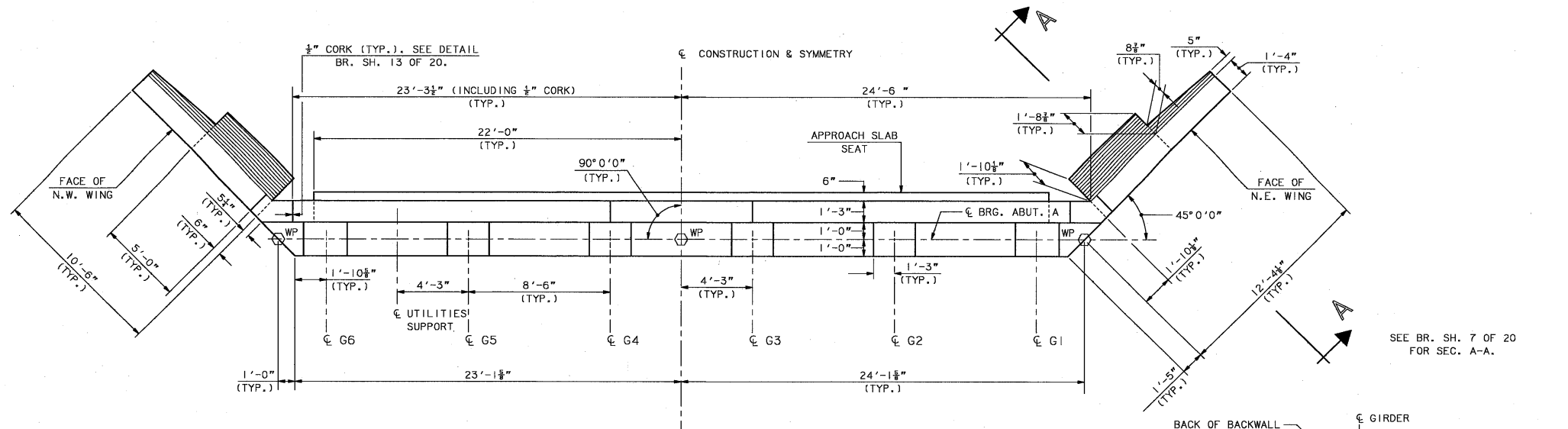


### BORING NOTES

- BORINGS INDICATED THUS WERE MADE BY THE NHDOT IN APRIL OF 1989. FIGURES IN THE RIGHT HAND COLUMN INDICATE THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. STANDARD SPLIT SPOON SAMPLER ONE FOOT, USING A 140 LB. WEIGHT FALLING 30 INCHES.
- BORINGS ARE FOR DESIGN PURPOSES SHOWING CONDITIONS AT BORING POINTS ONLY, AND DO NOT NECESSARILY INDICATE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.
- THE SOILS REPORT IS AVAILABLE IN THE NHDOT BRIDGE DESIGN BUREAU OFFICE FOR A MORE DETAILED SOILS DESCRIPTION.
- ROCK CORES WERE MADE USING AN AX 1 1/8" I.D. CORE BARREL.

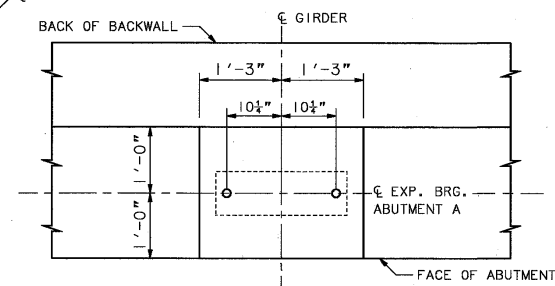
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN											
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366		
LOCATION			U.S. 302 OVER SAWYER RIVER								
BORINGS AND BORING LAYOUT											
BY		DATE		BY		DATE		REVISIONS AFTER PROPOSAL		DATE	
DESIGNED		JCA		3/90		CHECKED		ABP		6/90	
DRAWN		CAC		7/89		CHECKED		ABP		6/90	
TRACED						CHECKED					
QUANTITIES		JCA		7/90		CHECKED		ABP		8/90	
FEDERAL PROJECT NO.						BRF-032-1 (20)		SHEET NO.		TOTAL SHEETS	
								15		45	
										BRIDGE SHEET	
										3 OF 20	
										FILE NUMBER	
										2-6-2-3	





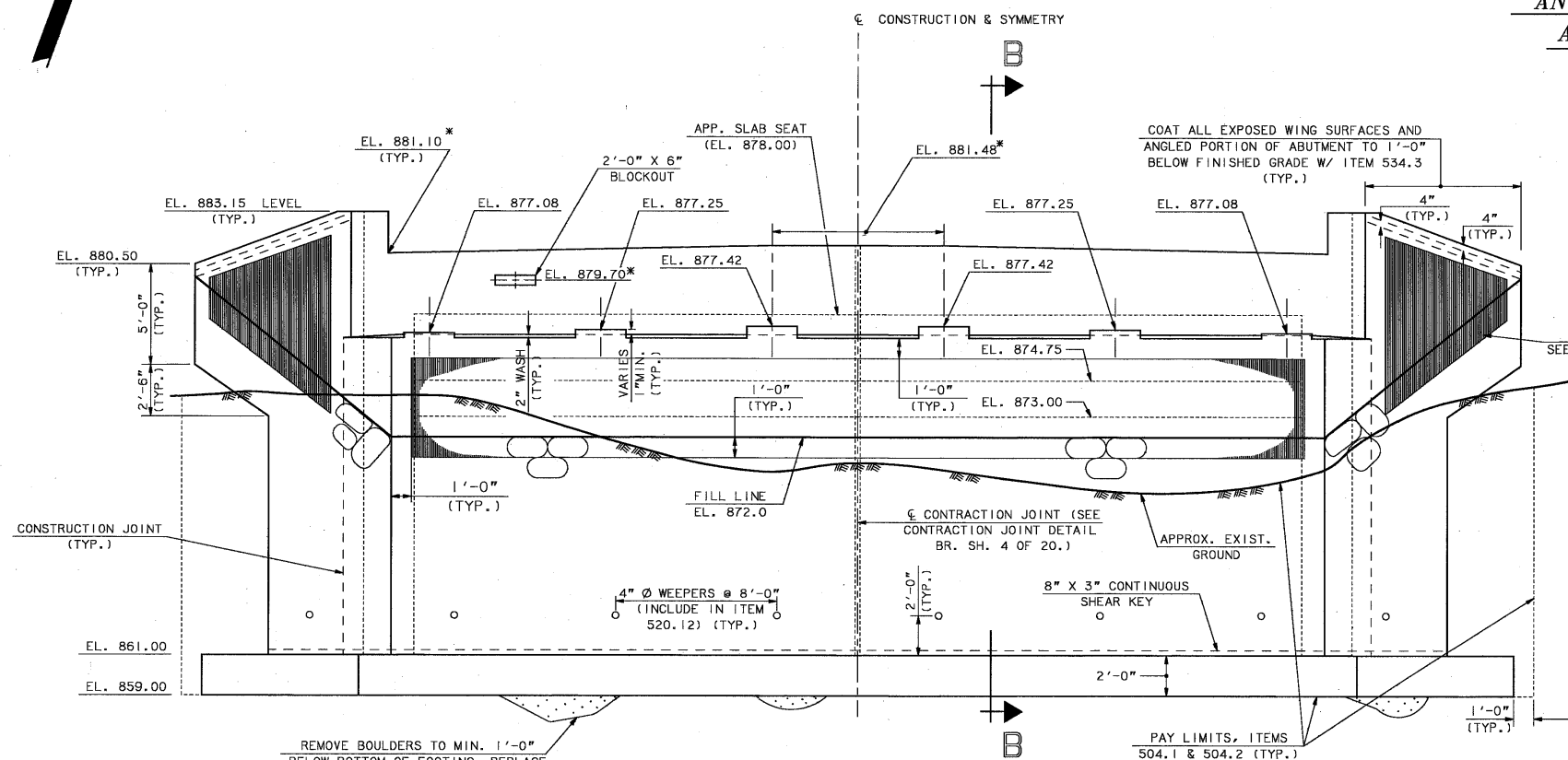
**ABUTMENT A - PLAN**

SCALE: 1/4" = 1'-0"



**ANCHOR BOLT LAYOUT  
ABUTMENT A (EXP.)**

SCALE: 3/4" = 1'-0"



**ABUTMENT A - ELEVATION**

SCALE: 1/4" = 1'-0"

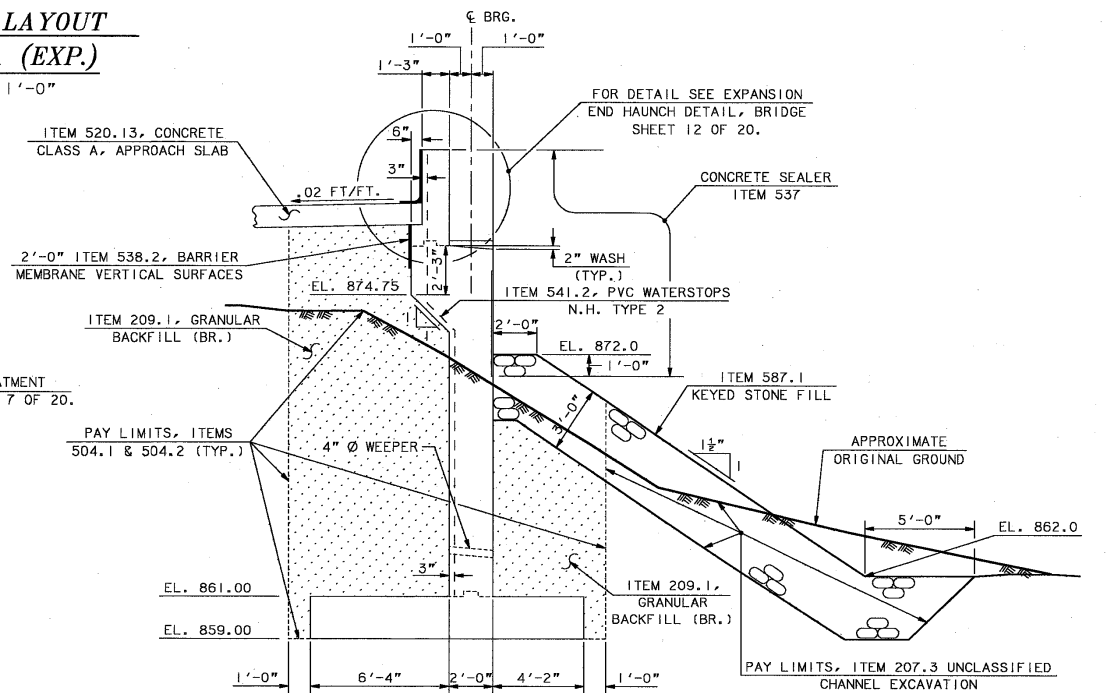
\*ELEVATIONS SHOWN ARE AT THE  
FACE OF BACKWALL.

**NOTES**

- (1) FOR ABUTMENT NOTES SEE BRIDGE SHEET 9 OF 20.
- (2) FOR SURVEY LAYOUT SEE BRIDGE SHEET 2 OF 20.

**ABUTMENT QUANTITIES**

ITEM NO.	ITEM DESCRIPTION	ABUT. A	ABUT. B	UNIT
207.3	UNCLASSIFIED CHANNEL EXCAVATION	305	354	CY
209.1	GRANULAR BACKFILL (BRIDGE)	377	328	CY
504.1	COMMON BRIDGE EXCAVATION	325	216	CY
504.2	ROCK BRIDGE EXCAVATION	108	72	CY
508.	STRUCTURAL FILL	4	48	CY
520.12	CONCRETE CLASS A ABOVE FOOTINGS	.53	.47	U
520.21	CONCRETE CLASS B, FOOTINGS	56.8	52.5	CY
534.3	WATER REPELLENT (SILANE SILOXANE)	3	3	GAL
537.	CONCRETE SEALER	9	11	GAL
538.2	BARRIER MEMBRANE, VERTICAL SURFACES	44	44	SY
541.2	PVC WATERSTOPS, NH TYPE 2	20	19	LF
544.	REINFORCING STEEL	15,294	12,610	LB
587.1	KEYED STONE FILL	450	437	CY



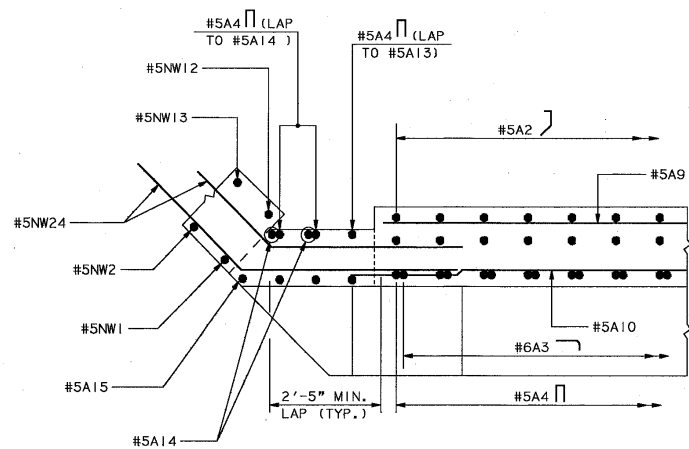
**SECTION B-B**

SCALE: 1/4" = 1'-0"

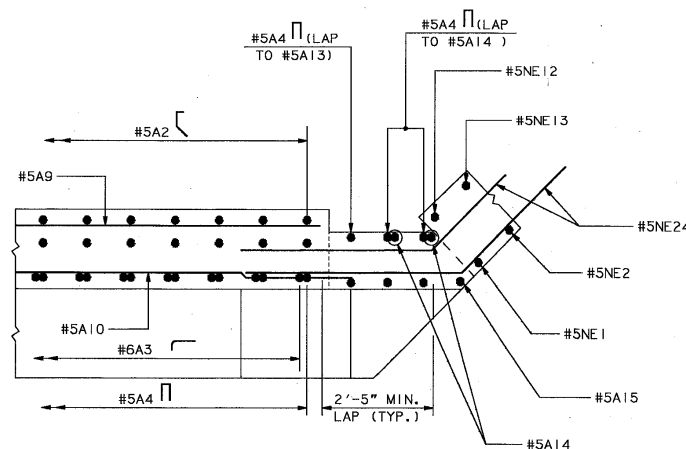
**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION \* BUREAU OF BRIDGE DESIGN**

TOWN	HARTS LOCATION	BRIDGE NO.	235/059	STATE PROJECT	P-4366
LOCATION	U.S. 302 OVER SAWYER RIVER				
<b>ABUTMENT A - MASONRY</b>					BRIDGE SHEET
DESIGNED	JCA	DATE	4/90	CHECKED	ABP 7/90
DRAWN	JCA	DATE	4/90	CHECKED	ABP 7/90
TRACED	JCA	DATE	7/90	CHECKED	ABP 7/90
QUANTITIES	JCA	DATE	7/90	CHECKED	ABP 7/90
REVISIONS AFTER PROPOSAL					DATE
FEDERAL PROJECT NO.					SHEET NO.
BRF-032-1 (20)					17
TOTAL SHEETS					45

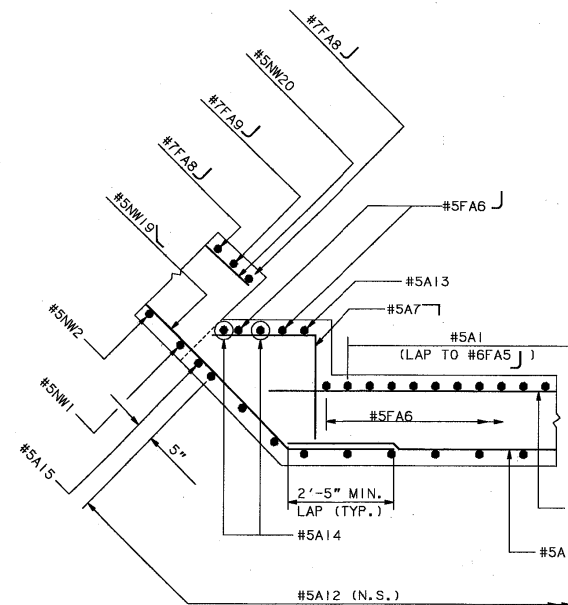
WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
A-ABUT	A-ABUT	ABUT-A.FGB	AS NOTED



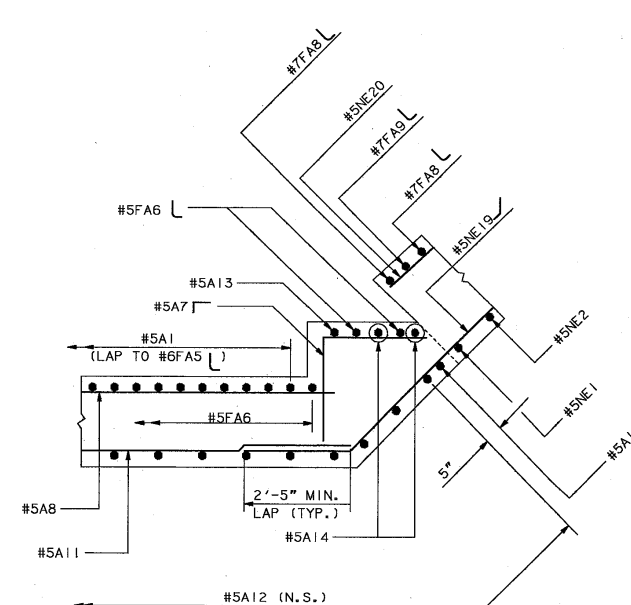
SECTION C-C  
SCALE: 1/2" = 1'-0"



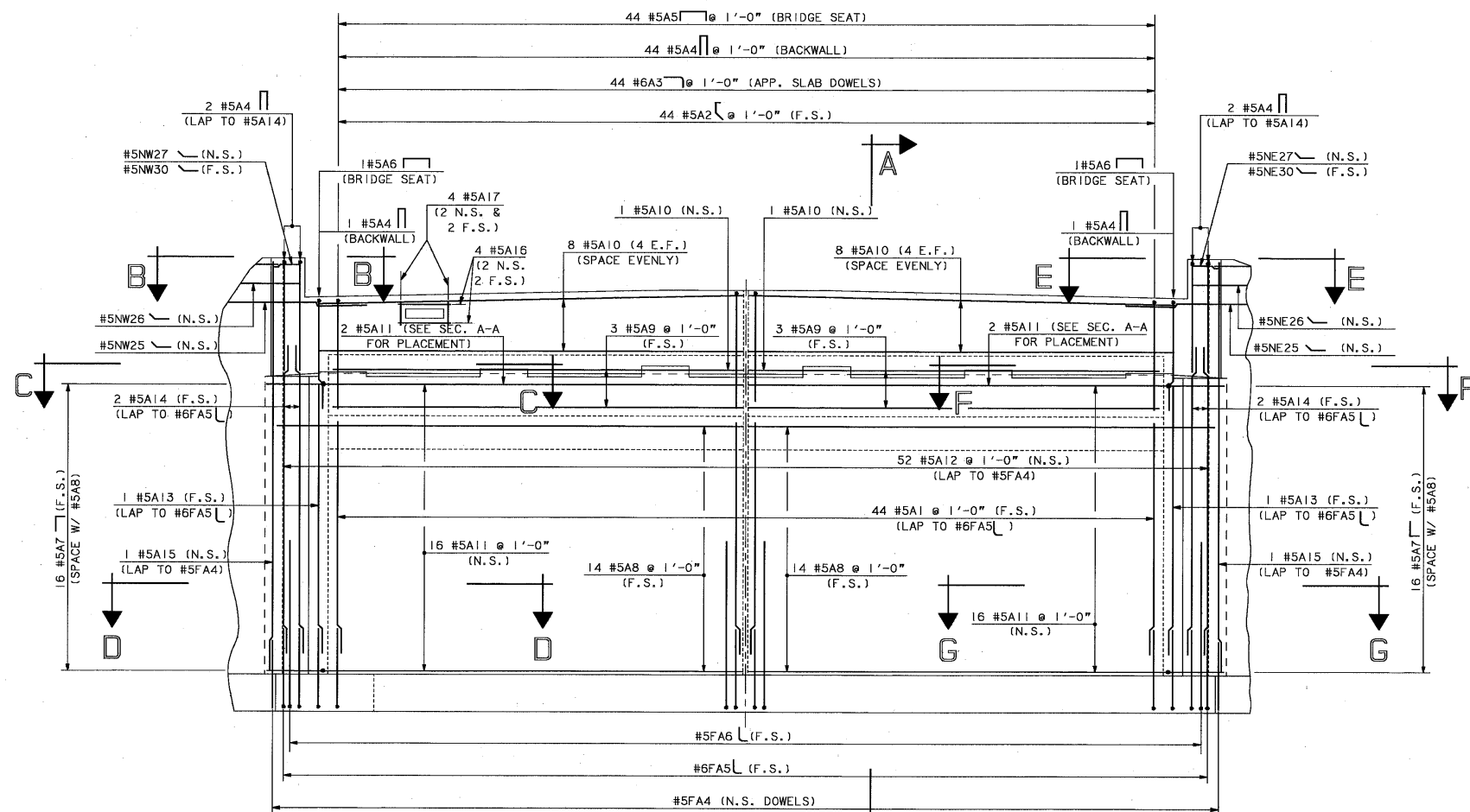
SECTION F-F  
SCALE: 1/2" = 1'-0"



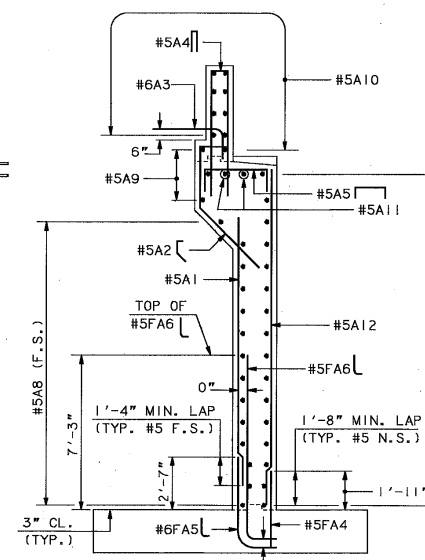
SECTION D-D  
SCALE: 1/2" = 1'-0"



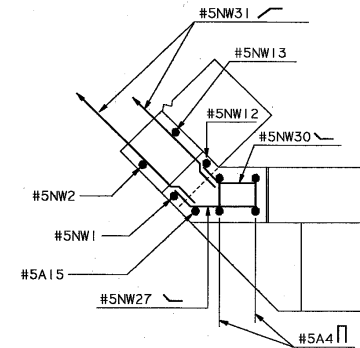
SECTION G-G  
SCALE: 1/2" = 1'-0"



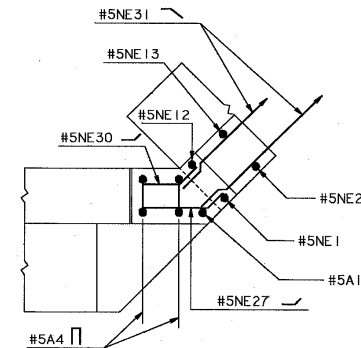
ABUTMENT A - REINFORCEMENT  
SCALE: 1/4" = 1'-0"



SECTION A-A  
SCALE: 1/4" = 1'-0"



VIEW B-B  
SCALE: 1/2" = 1'-0"



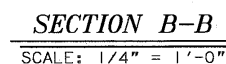
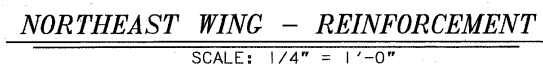
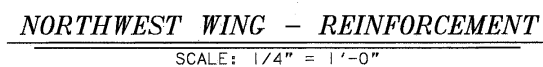
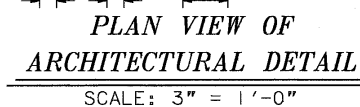
VIEW E-E  
SCALE: 1/2" = 1'-0"

# REINFORCEMENT NOTES

- REINFORCEMENT IN THE FOOTINGS SHALL HAVE A 3" MINIMUM CLEAR COVER. ALL OTHER REINFORCEMENT IN THE ABUTMENTS AND WINGWALLS SHALL HAVE A 2 1/2" MINIMUM CLEAR COVER UNLESS OTHERWISE NOTED.
- CUT OR ADJUST REINFORCING BARS AS REQUIRED TO CLEAR UTILITY BLOCKOUTS.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366
LOCATION		U.S. 302 OVER SAWYER RIVER							
ABUTMENT A - REINFORCEMENT									BRIDGE SHEET
BY		DATE		BY		DATE		REVISIONS AFTER PROPOSAL	DATE
DESIGNED	JCA	4/90	CHECKED	ABP	7/90				6 OF 20
DRAWN	JCA	4/90	CHECKED	ABP	7/90				FILE NUMBER
									2-6-2-3
TRACED	JCA	7/90	CHECKED	ABP	7/90	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
QUANTITIES	JCA	7/90	CHECKED	ABP	7/90	BRF-032-1 (20)		18	45

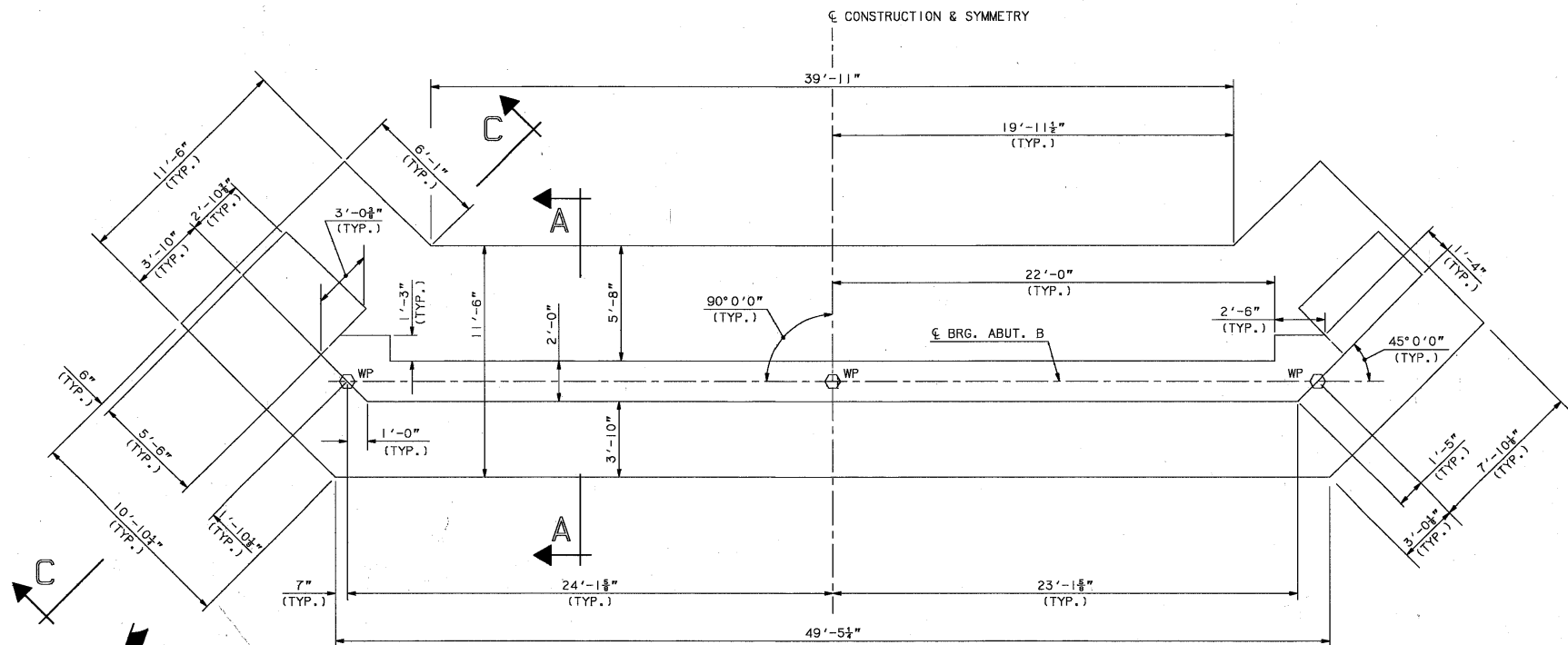
WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
A-REBAR	A-REBAR	ABUT-A.FGB	AS NOTED



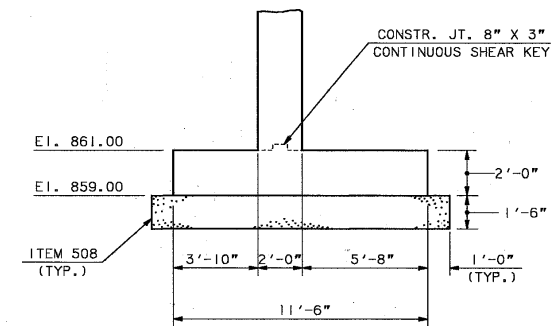
NOTES:  
(1) SEE BRIDGE SHEET 6 OF 20 FOR REINFORCEMENT NOTES.

STATE OF NEW HAMPSHIRE											
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN											
TOWN		HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366	
LOCATION		U.S. 302 OVER SAWYER RIVER									
ABUTMENT A - WINGWALLS										BRIDGE SHEET	
										7 OF 20	
BY		DATE		BY		DATE		REVISIONS AFTER PROPOSAL		DATE	
DESIGNED		JCA 4/90		CHECKED		ABP 7/90				FILE NUMBER	
DRAWN		JCA 4/90		CHECKED		ABP 7/90				2-6-2-3	
QUANTITIES		JCA 7/90		CHECKED		ABP 7/90		FEDERAL PROJECT NO.		SHEET NO.	
								BRF-032-1 (20)		19	
TRACED				CHECKED						TOTAL SHEETS	
										45	

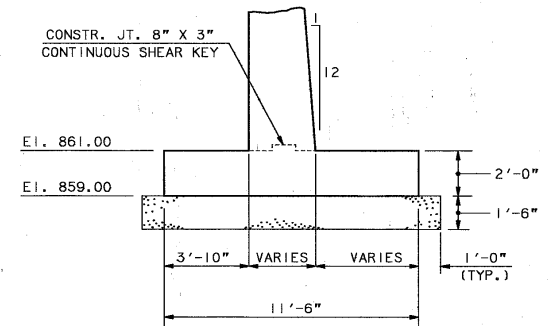
WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
A-WINGS	A-WINGS	ABUT-A.FGB	AS NOTED



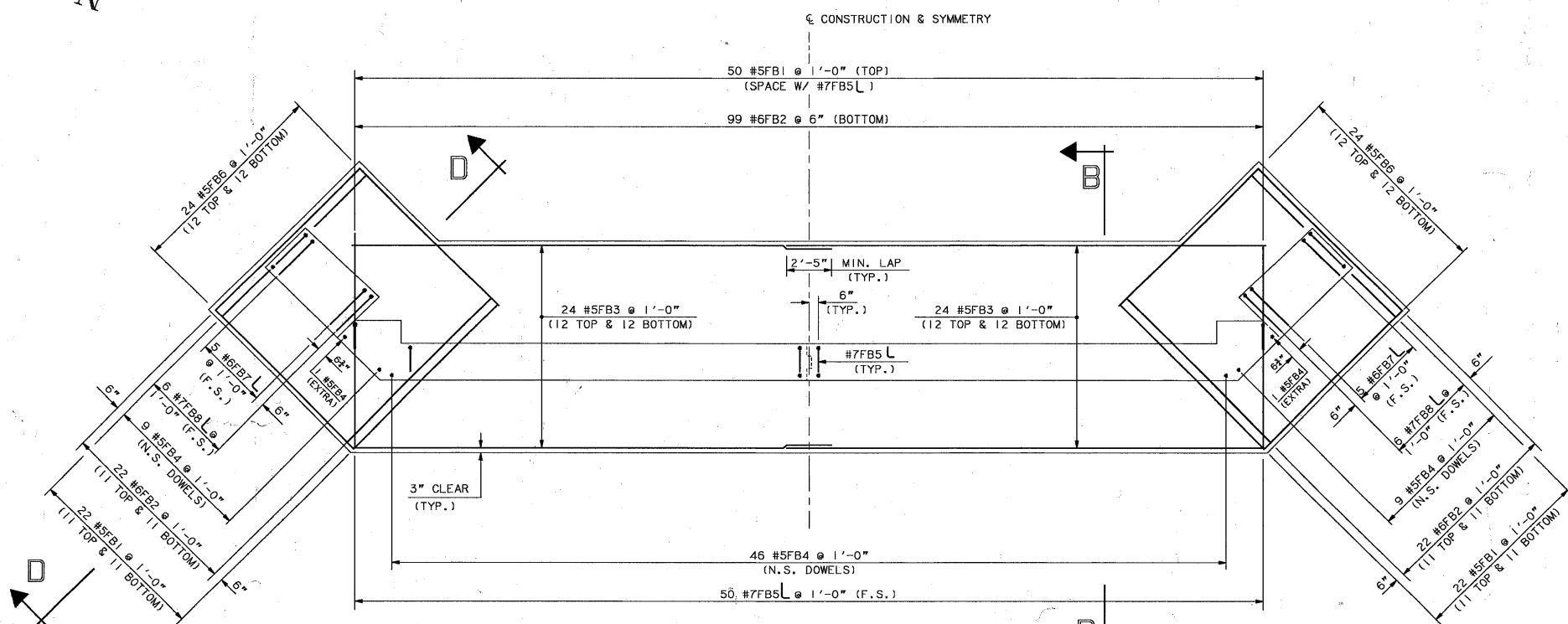
ABUTMENT B FOOTING - MASONRY



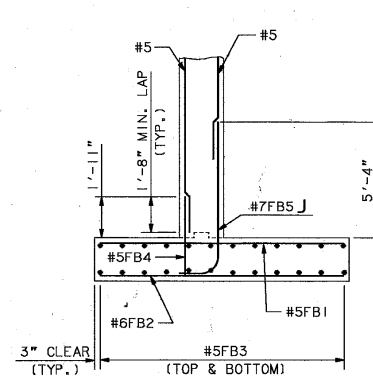
SECTION A-A



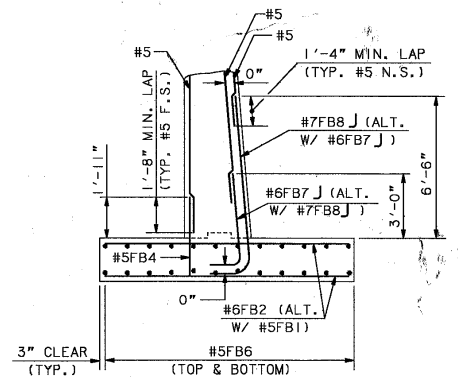
SECTION C-C



ABUTMENT B FOOTING - REINFORCEMENT



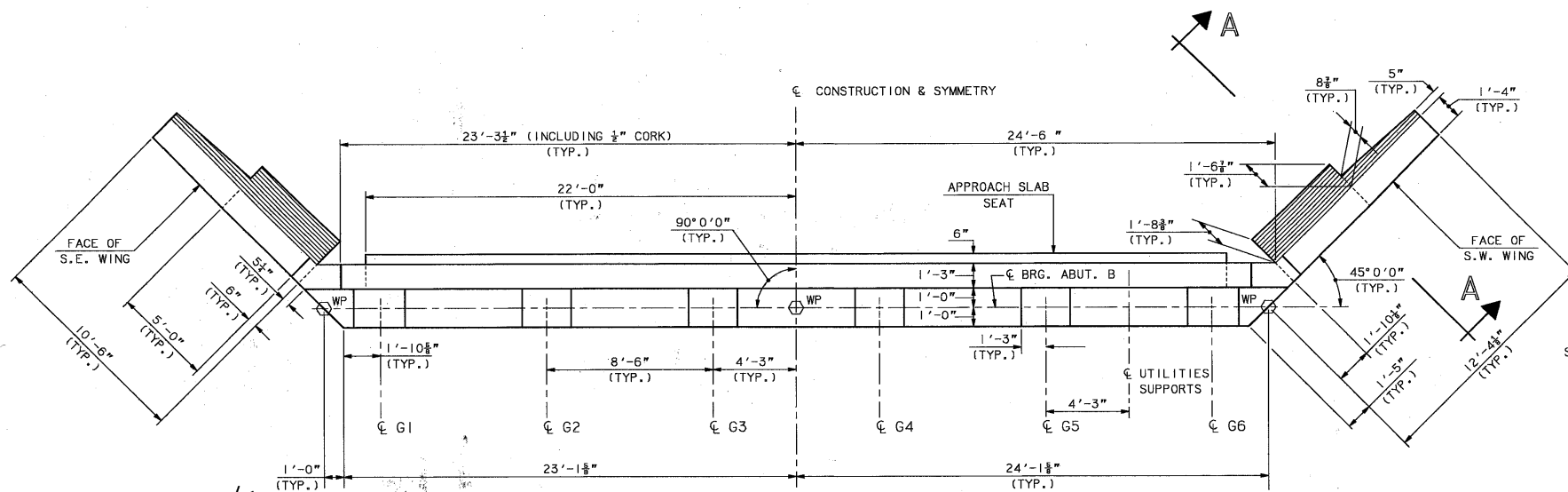
SECTION B-B



SECTION D-D

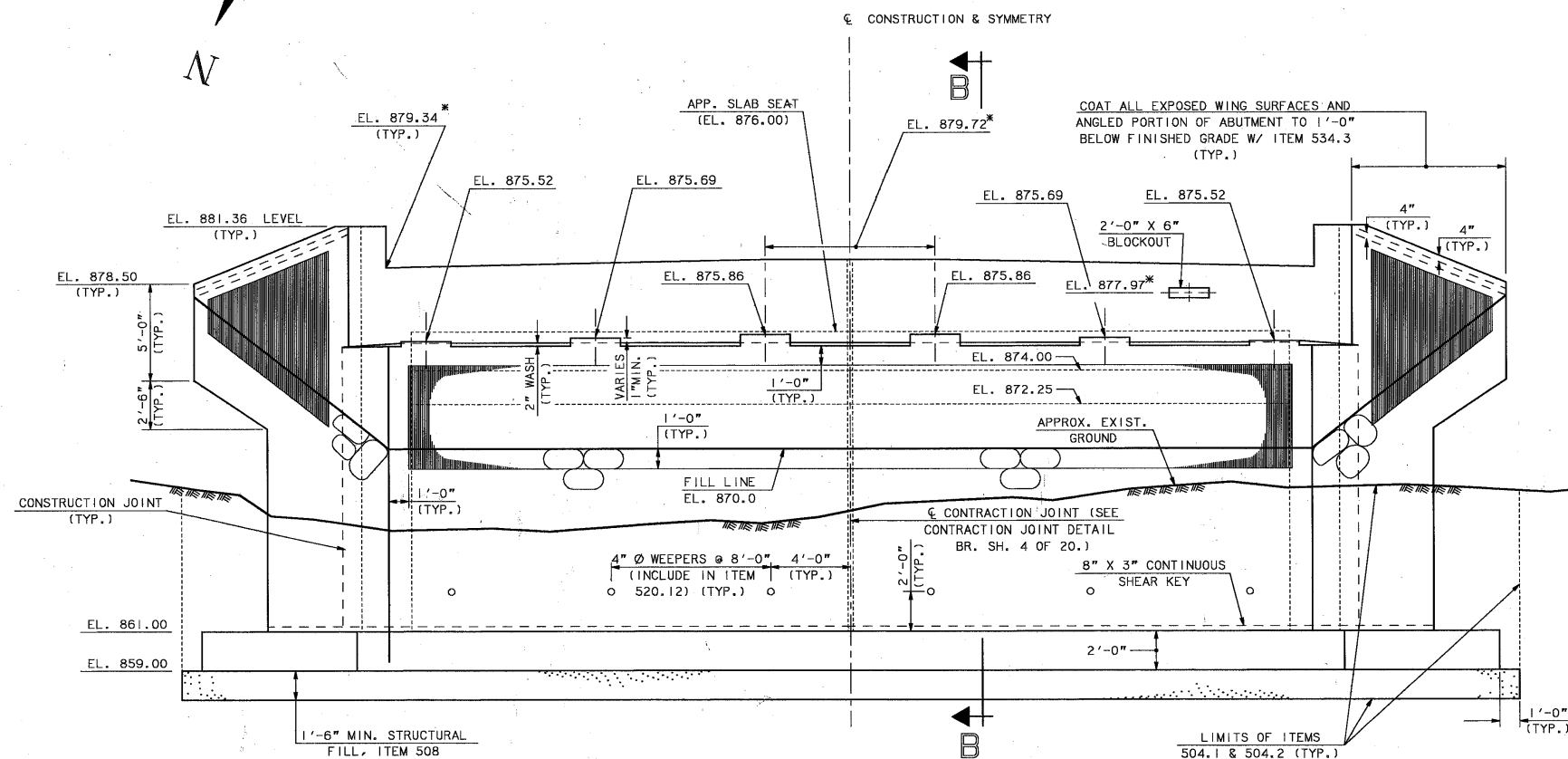
NOTE: SEE BR. SH. 4 OF 20  
FOR FOOTING NOTES.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366
LOCATION			U.S. 302 OVER SAWYER RIVER						
ABUTMENT B - FOOTING								BRIDGE SHEET	
								8 OF 20	
DESIGNED	JCA	5/90	CHECKED	ABP	7/90			FILE NUMBER	
DRAWN	JCA	5/90	CHECKED	ABP	7/90			2-6-2-3	
TRACED			CHECKED					TOTAL SHEETS	
QUANTITIES	JCA	7/90	CHECKED	ABP	7/90	FEDERAL PROJECT NO., BRF-032-1.(20)		SHEET NO. 20	45



**ABUTMENT B - PLAN**

SCALE: 1/4" = 1'-0"



**ABUTMENT B - ELEVATION**

SCALE: 1/4" = 1'-0"

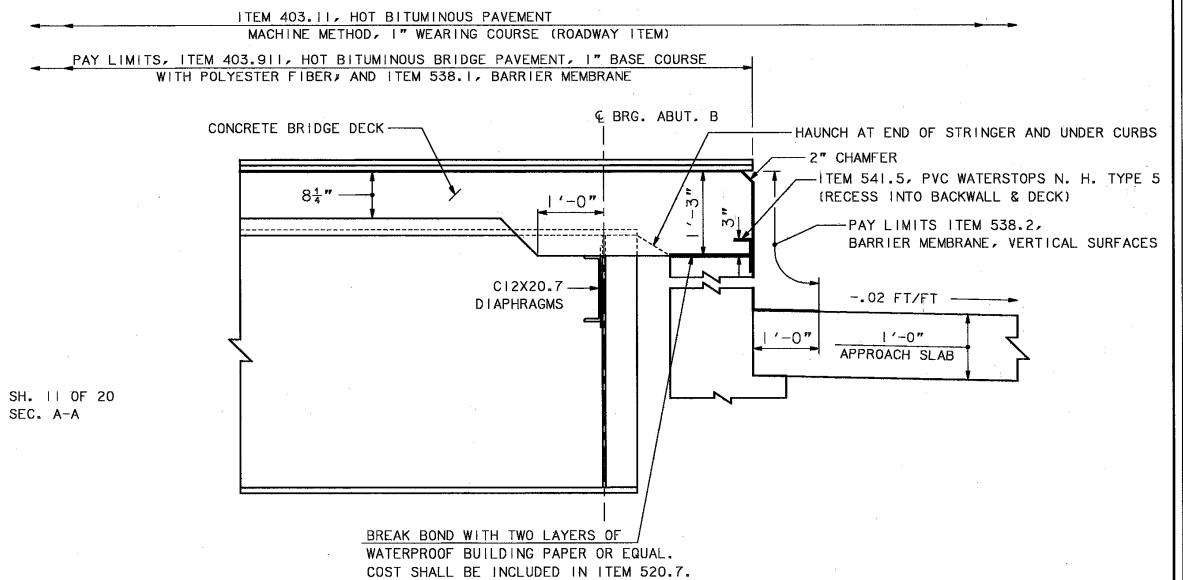
**ABUTMENT NOTES**

- (1) AT THE CONTRACTOR'S OPTION, THE BROKEN-BACK CONFIGURATION OF THE ABUTMENTS MAY BE ELIMINATED & THE ABUTMENTS POURED VERTICALLY FROM THE TOP OF FOOTING TO THE BRIDGE SEAT CONSTRUCTION JOINT. IF THE CONTRACTOR CHOOSES THIS OPTION: 1) NO ADJUSTMENTS IN CONTRACT UNIT PRICE WILL BE MADE FOR THE ADDITIONAL CONCRETE REQUIRED; 2) THE BUREAU OF BRIDGE DESIGN SHALL BE CONTACTED FOR APPROVAL OF THE REINFORCING STEEL LAYOUT.
- (2) THE BEARING PEDESTALS SHALL BE POURED 1/4"± LOWER THAN PLAN ELEVATIONS AND THEN GROUND LEVEL. ELEVATIONS SHALL THEN BE TAKEN AT EACH PEDESTAL AND A SHIM ORDERED OF A THICKNESS EQUAL TO THE DIFFERENCE BETWEEN THE ACTUAL AND PLAN ELEVATIONS. COST OF THE SHIM PLATES SHALL BE INCLUDED IN ITEM 550.2, BRIDGE SHOES.  
AT THE CONTRACTOR'S OPTION THE BEARING PEDESTALS MAY BE POURED SLIGHTLY HIGH AND THEN THE ENTIRE PEDESTAL SURFACE MACHINE DRESSED TO THE EXACT ELEVATION. PLACE REINFORCING STEEL TO CLEAR ANCHOR BOLTS.

- (3) ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4".
- (4) THE CONCRETE IN THE BACKWALLS AND WINGS ABOVE THE BEARING SEAT CONSTRUCTION JOINT SHALL BE THE SAME MIX AS THAT IN THE BRIDGE DECK. COST SHALL BE INCLUDED IN ITEM 520.12.
- (5) MASONRY BLOCKING SHALL BE USED AS NECESSARY ON THE APPROACH SLABS TO SUPPORT THE APPROACH CURB. COST SHALL BE INCLUDED IN ITEM 520.13.
- (6) ITEM 538.2, BARRIER MEMBRANE VERTICAL SURFACES, SHALL BE PLACED OVER THE BEARING SEAT CONSTRUCTION JOINT AND OVER THE CONSTRUCTION JOINT AT THE BACK OF THE ABUTMENT BACKWALL. (CENTER MEMBRANE ABOUT JOINTS)

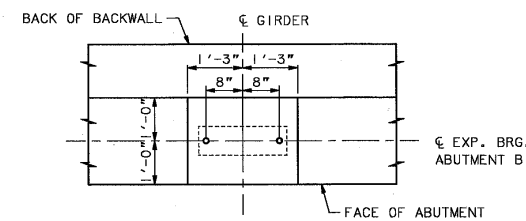
- (7) ITEM 537, CONCRETE SEALER, SHALL BE APPLIED TO FACE OF BACKWALL, WASH AND BEAM SEAT (INCL. UNDERNEATH BRIDGE SHOES) AND FACE OF ABUTMENT TO 1'-0" BELOW FILL LINE.
- (8) ITEM 534.3, WATER REPELLENT (SILANE - SILOXANE), SHALL BE APPLIED TO ALL EXPOSED WINGWALL SURFACES AND ANGLED ABUTMENT PORTIONS TO 1'-0" BELOW THE FILL LINES.
- (9) ALL FOOTING CONCRETE SHALL BE PAID AS ITEM 520.21, CONCRETE CLASS B, FOOTINGS. ALL OTHER CONCRETE IN THE ABUTMENT AND WINGWALLS SHALL BE PAID AS ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS.
- (10) COMPLETELY GROUT TELEPHONE AND ELECTRICAL DUCTS IN BACKWALL. PLACING OF DUCTS AND GROUT SHALL BE BY THE UTILITIES.

WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
B-ABUT	B-ABUT	ABUT-B.FGB	AS NOTED



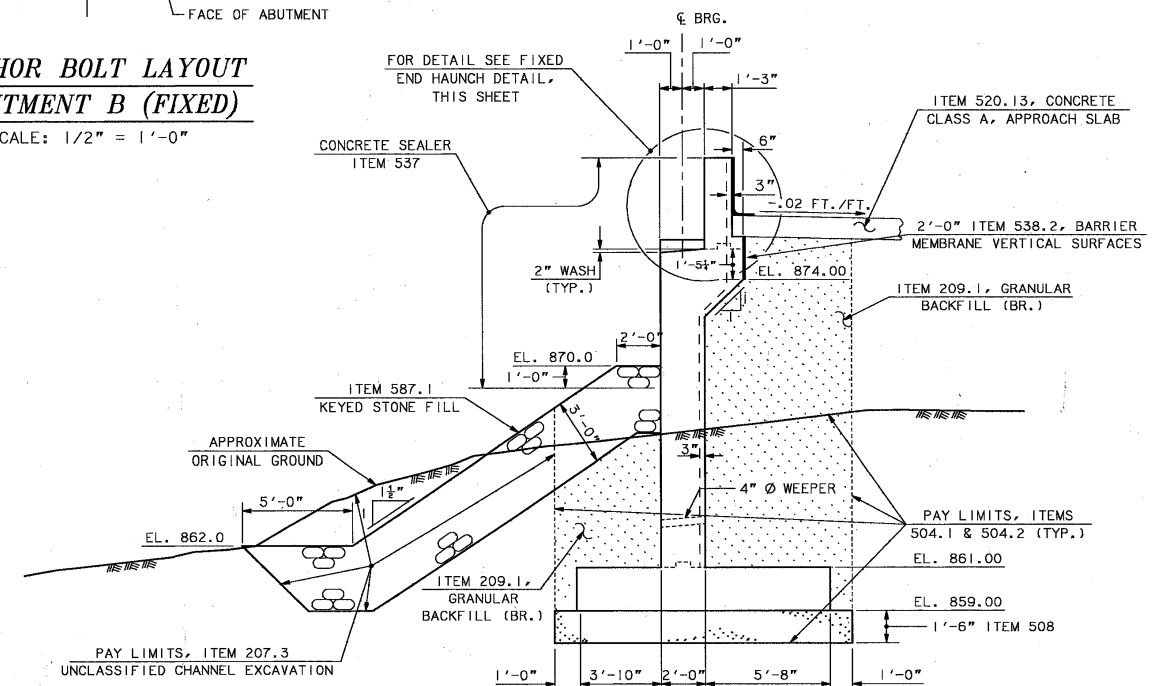
**TYPICAL FIXED END HAUNCH DETAIL**

SCALE: 3/4" = 1'-0"  
(NORMAL TO C BEARING)



**ANCHOR BOLT LAYOUT  
ABUTMENT B (FIXED)**

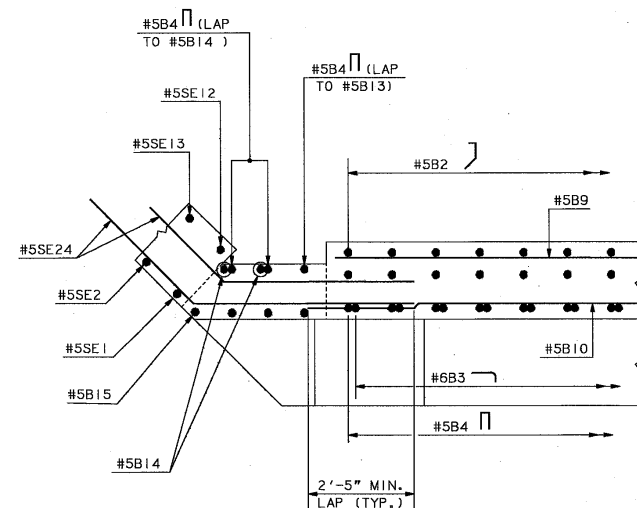
SCALE: 1/2" = 1'-0"



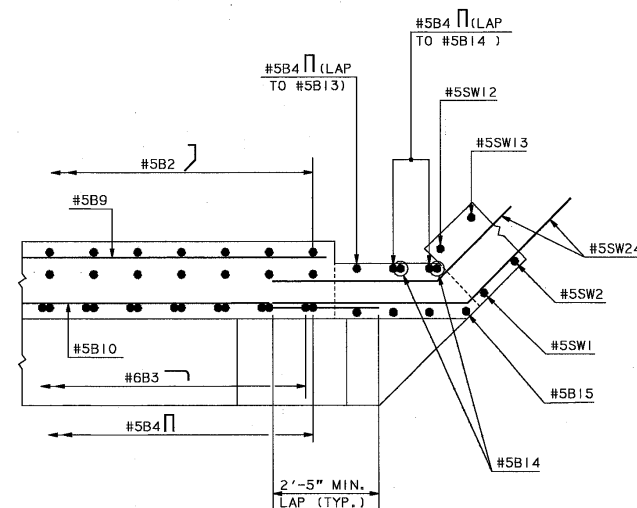
**SECTION B-B**

SCALE: 1/4" = 1'-0"

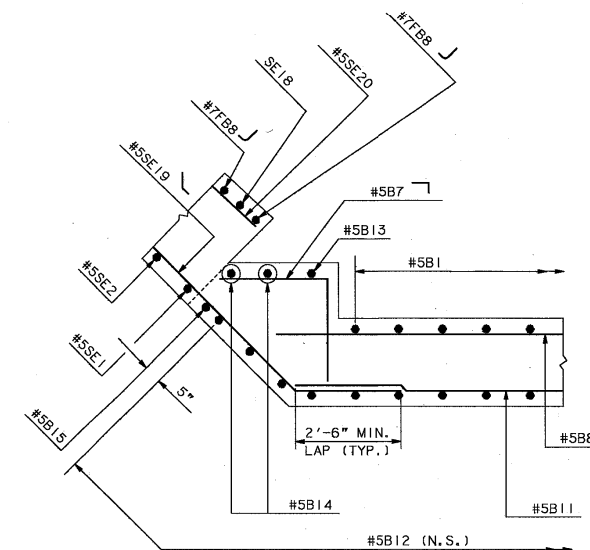
STATE OF NEW HAMPSHIRE															
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN															
TOWN		HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366					
LOCATION		U.S. 302 OVER SAWYER RIVER													
ABUTMENT B - MASONRY										BRIDGE SHEET					
		BY		DATE		BY		DATE		REVISIONS AFTER PROPOSAL		DATE		9 OF 20	
DESIGNED		JCA		5/90		CHECKED		ABP		8/90				FILE NUMBER	
DRAWN		JCA		5/90		CHECKED		ABP		8/90				2-6-2-3	
TRACED						CHECKED						FEDERAL PROJECT NO.		SHEET NO.	
QUANTITIES		JCA		7/90		CHECKED		ABP		8/90		BRF-032-1 (20)		21	
										TOTAL SHEETS		45			



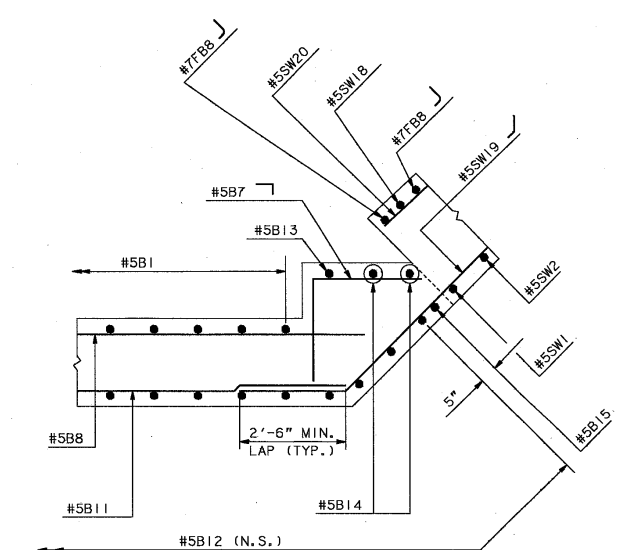
**SECTION C-C**  
SCALE: 1/2" = 1'-0"



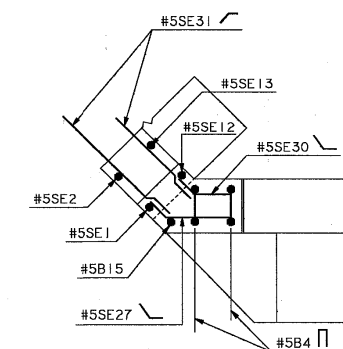
**SECTION F-F**  
SCALE: 1/2" = 1'-0"



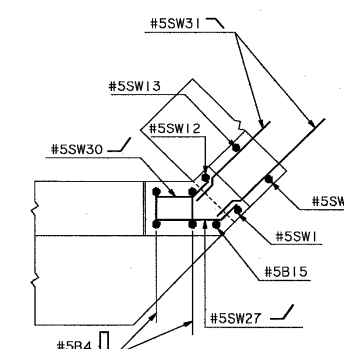
**SECTION D-D**  
SCALE: 1/2" = 1'-0"



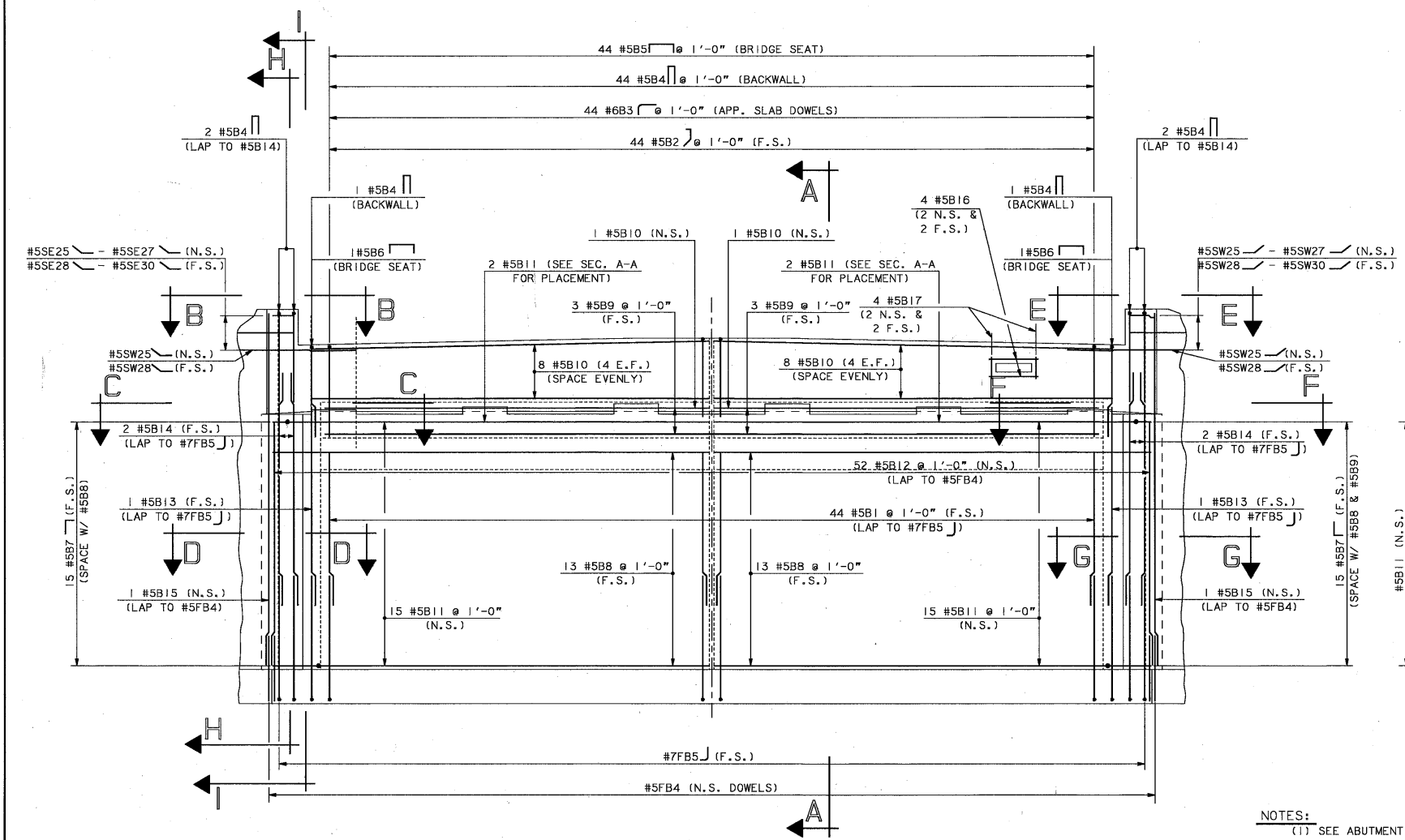
**SECTION G-G**  
SCALE: 1/2" = 1'-0"



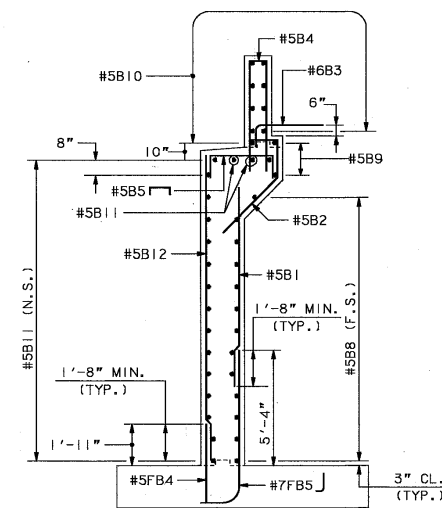
**VIEW B-B**  
SCALE: 1/2" = 1'-0"



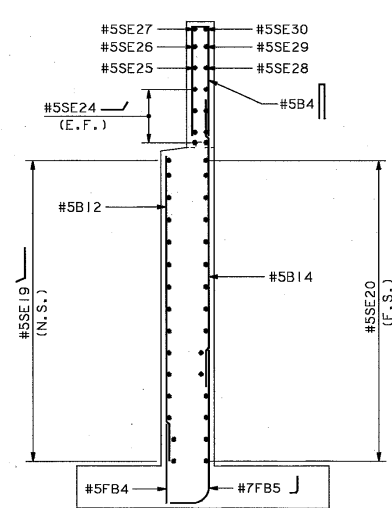
**VIEW E-E**  
SCALE: 1/2" = 1'-0"



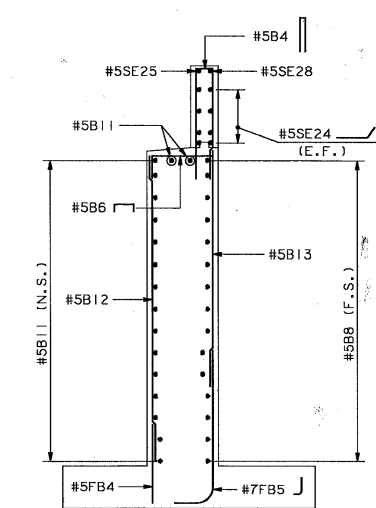
**ABUTMENT B - REINFORCEMENT**  
SCALE: 1/4" = 1'-0"



**SECTION A-A**  
SCALE: 1/4" = 1'-0"



**SECTION H-H**  
SCALE: 1/4" = 1'-0"

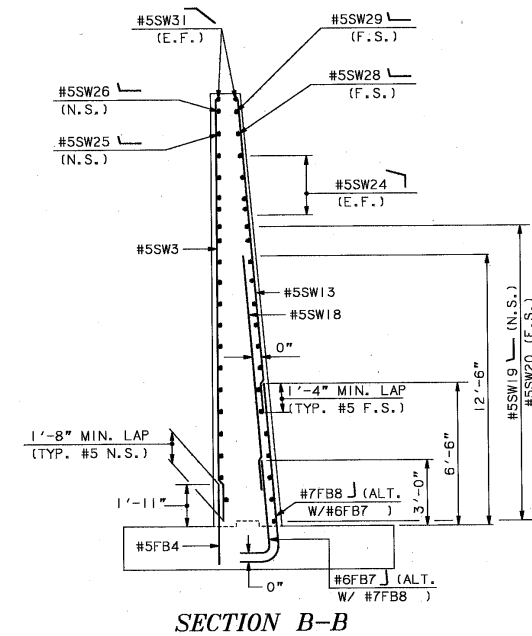
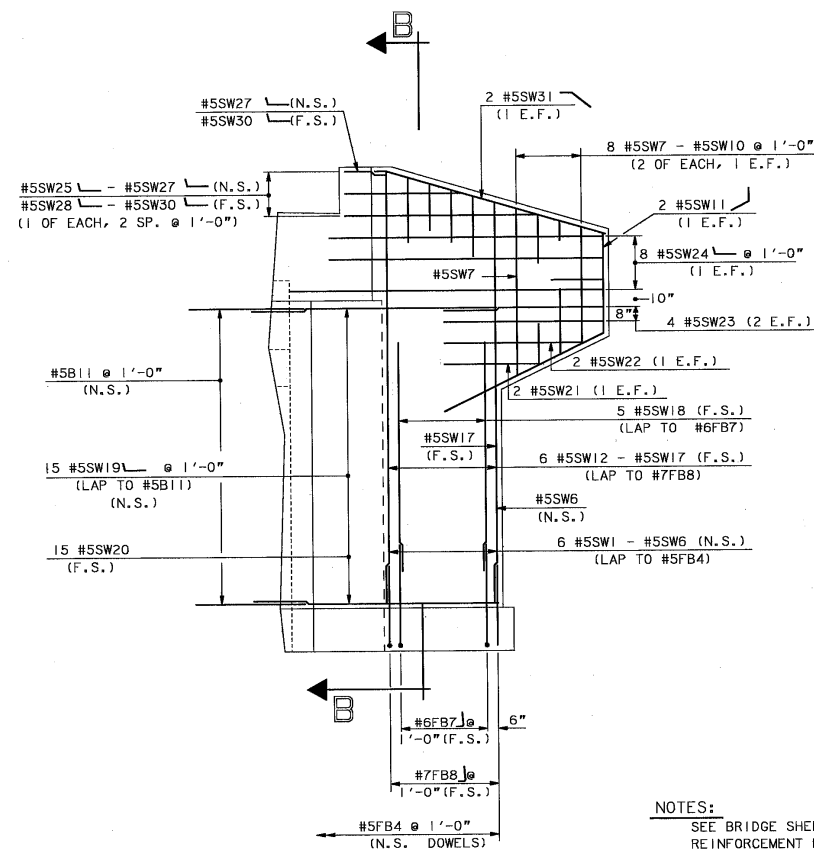
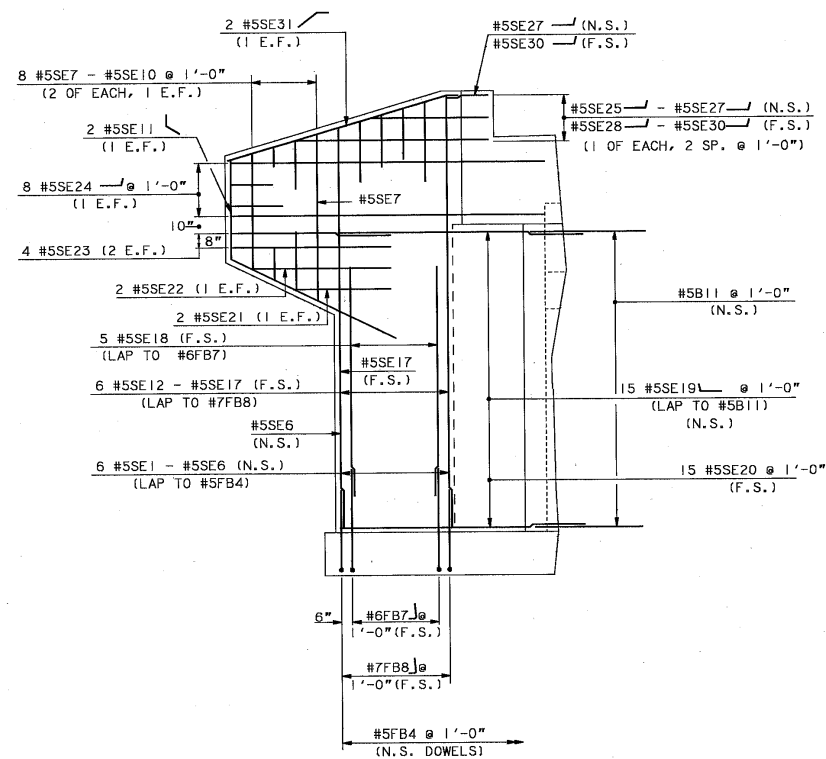
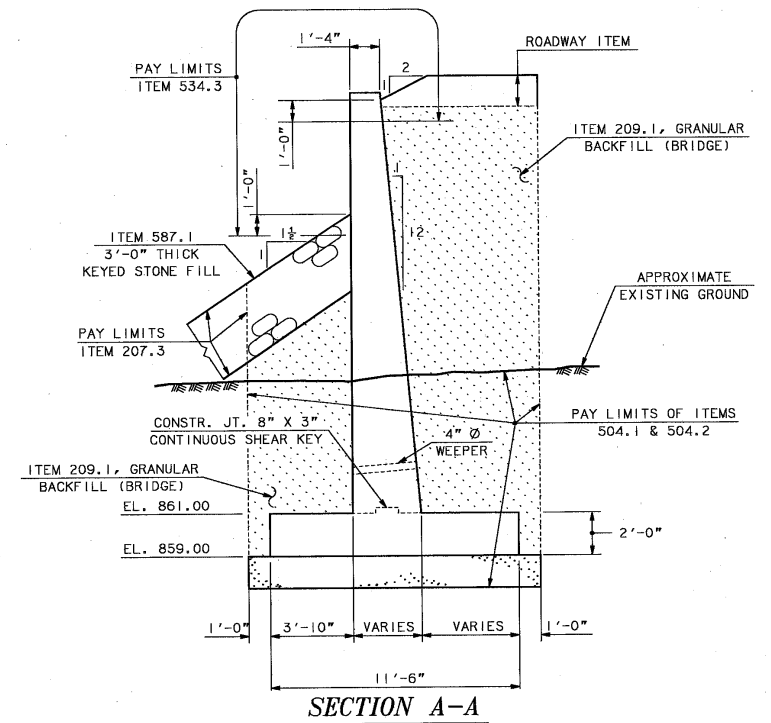
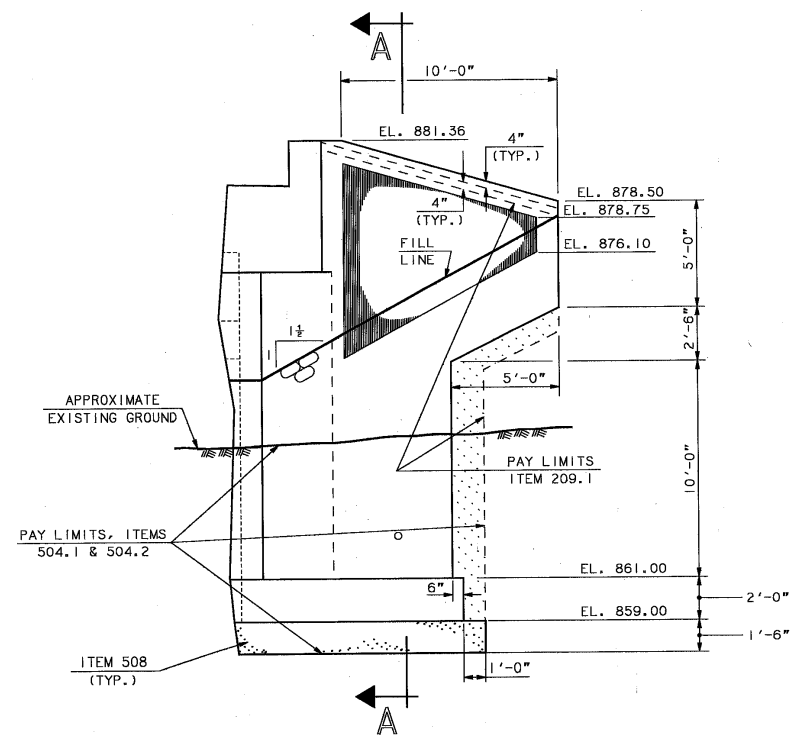
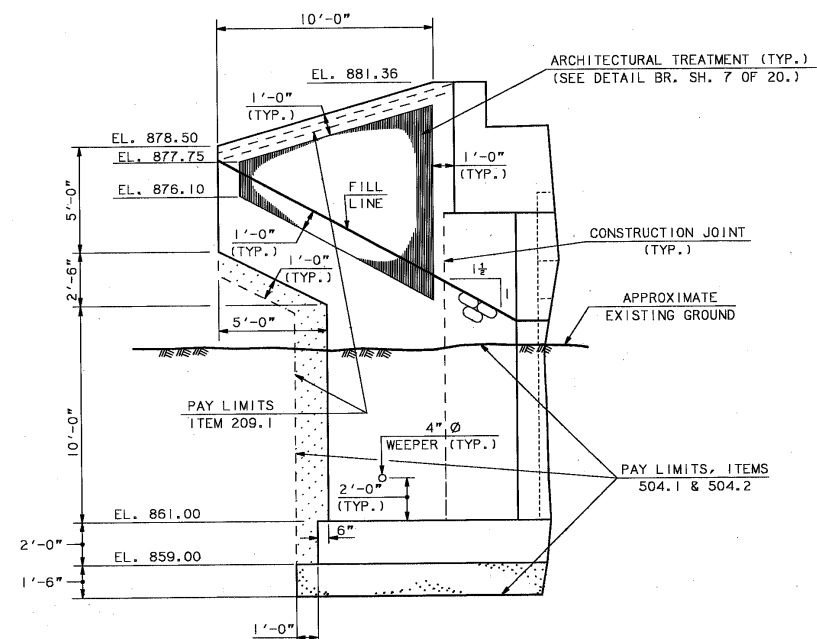


**SECTION I-I**  
SCALE: 1/4" = 1'-0"

NOTES:  
(1) SEE ABUTMENT REINFORCEMENT NOTES  
ON BRIDGE SHEET 6 OF 20.

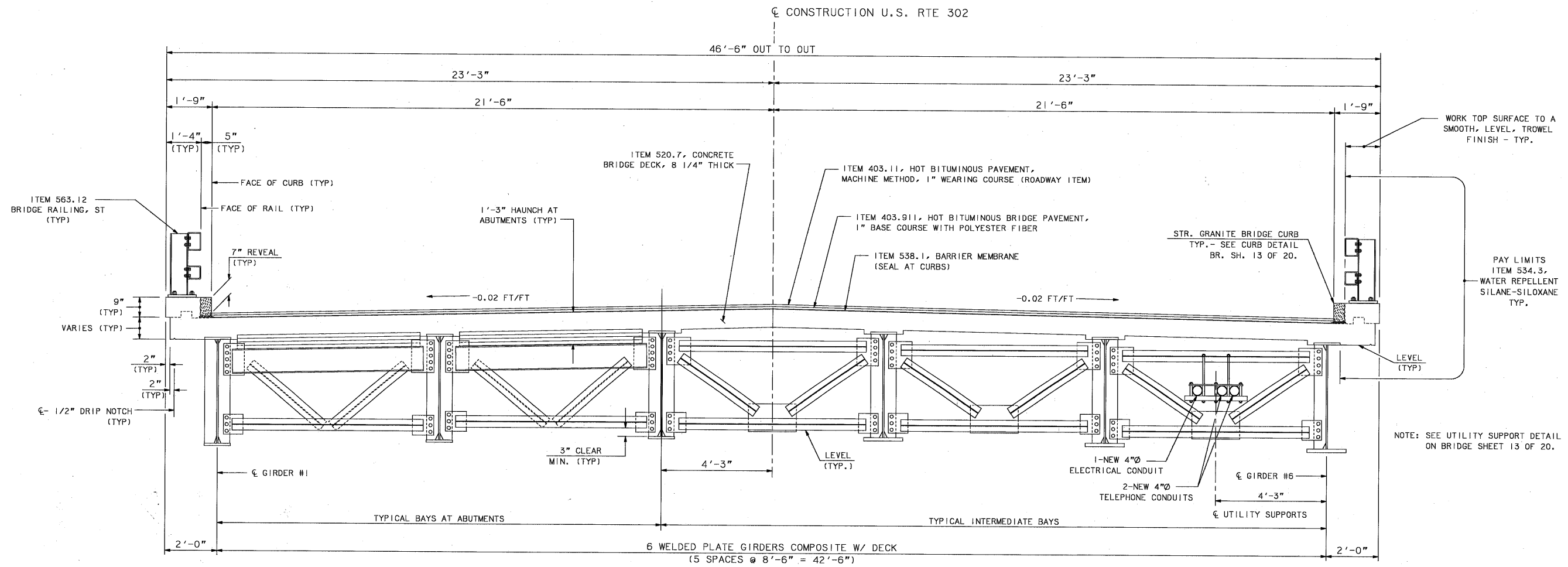
STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366
LOCATION			U.S. 302 OVER SAWYER RIVER						
ABUTMENT B - REINFORCEMENT								BRIDGE SHEET	
BY		DATE	BY		DATE	REVISIONS AFTER PROPOSAL		DATE	10 of 20
DESIGNED	JCA	4/90	CHECKED	ABP	8/90				FILE NUMBER
DRAWN	JCA	5/90	CHECKED	ABP	8/90				2-6-2-3
TRACED			CHECKED			FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
QUANTITIES	JCA	7/90	CHECKED	ABP	8/90	BRF-032-1 (20)		22	45

WINDOW NAME	DRAWING NAME	*PGB FILE NAME	SHEET SCALE
B-REBAR	B-REBAR	ABUT-B.FGB	AS NOTED



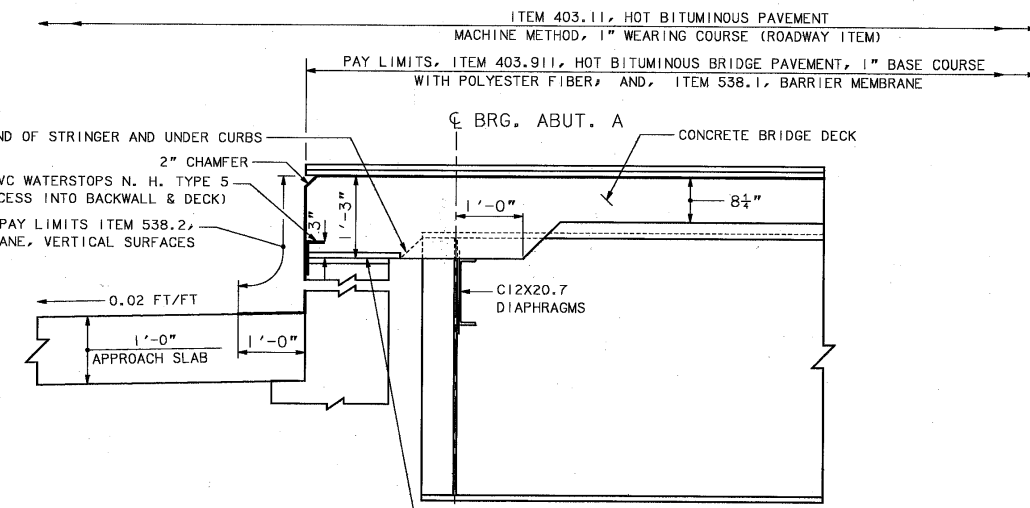
NOTES:  
SEE BRIDGE SHEET 6 OF 20 FOR  
REINFORCEMENT NOTES.

STATE OF NEW HAMPSHIRE															
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN															
TOWN		HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366					
LOCATION		U.S. 302 OVER SAWYER RIVER													
ABUTMENT B - WINGWALLS										BRIDGE SHEET					
										11 OF 20					
		BY		DATE		BY		DATE		REVISIONS AFTER PROPOSAL		DATE		FILE NUMBER	
DESIGNED		JCA		5/90		CHECKED		ABP		8/90					
DRAWN		JCA		5/90		CHECKED		ABP		8/90				2-6-2-3	
TRACED						CHECKED						FEDERAL PROJECT NO.		SHEET NO.	
QUANTITIES		JCA		7/90		CHECKED		ABP		8/90		BRF-032-1 (20)		23	
										TOTAL SHEETS					
										45					



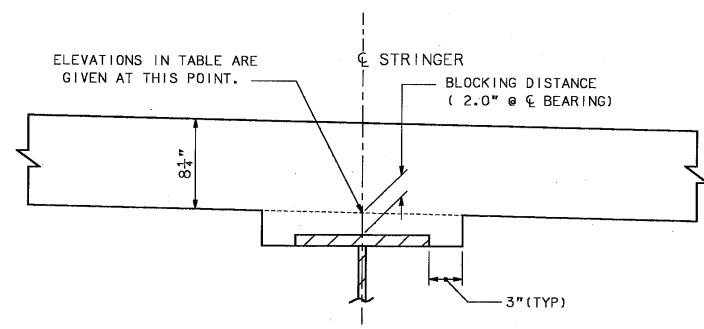
**TYPICAL DECK SECTION**

SCALE: 1/2" = 1'-0"



**TYPICAL EXPANSION END HAUNCH DETAIL**

SCALE: 3/4" = 1'-0"  
(NORMAL TO  $\phi$  BEARING)



**HAUNCH DETAIL**

SCALE: 1 1/2" = 1'-0"

ELEVATIONS AT BOTTOM OF CONCRETE DECK SLAB												
GIRDER	ABUT. A	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L	ABUT. B	
#1	881.68	881.59	881.49	881.37	881.23	881.06	880.88	880.67	880.45	880.21	879.95	
#2	881.85	881.76	881.66	881.54	881.40	881.23	881.05	880.84	880.62	880.38	880.12	
#3	882.02	881.93	881.83	881.71	881.57	881.40	881.22	881.01	880.79	880.55	880.29	
#4	882.02	881.93	881.83	881.71	881.57	881.40	881.22	881.01	880.79	880.55	880.29	
#5	881.85	881.76	881.66	881.54	881.40	881.23	881.05	880.84	880.62	880.38	880.12	
#6	881.68	881.59	881.49	881.37	881.23	881.06	880.88	880.67	880.45	880.21	879.95	

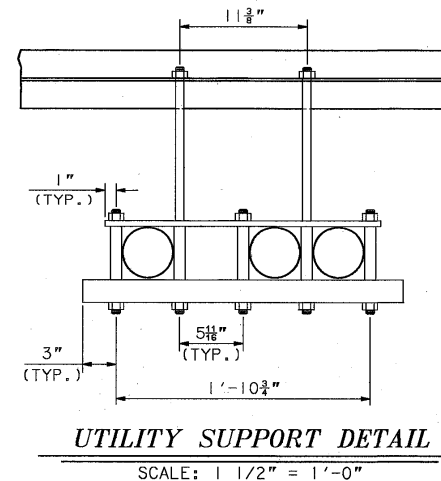
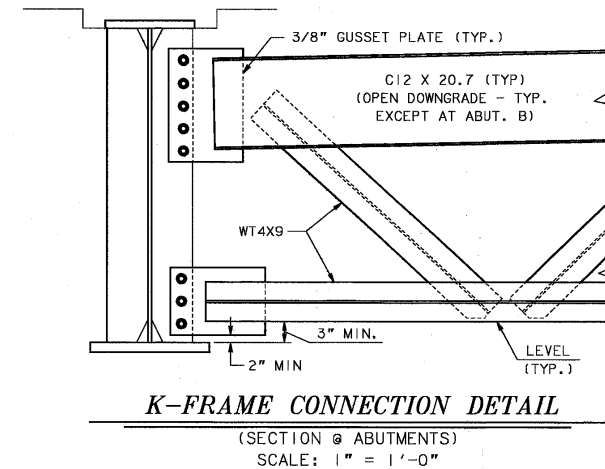
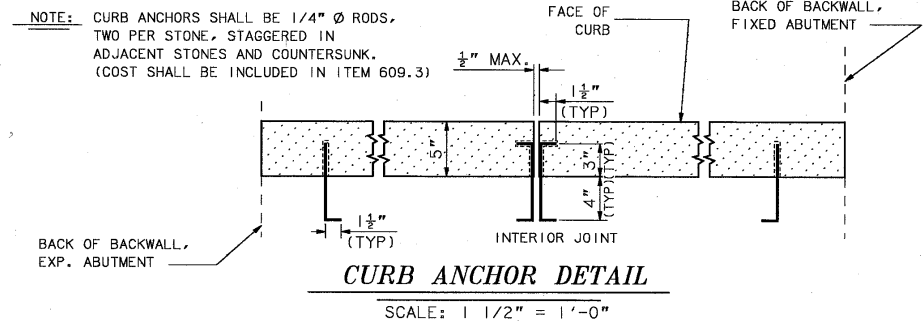
**DECK ELEVATION NOTES**

- (1) AFTER THE STRUCTURAL STEEL IS ERECTED BUT BEFORE THE DECK FORMS ARE BUILT, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE IS THE ACTUAL BLOCKING DISTANCE FROM THE TOP  $\phi$  OF THE GIRDER TO THE BOTTOM OF THE DECK AT THE  $\phi$  OF THE GIRDER. SEE ELEVATION TABLE AND HAUNCH DETAIL ON THIS SHEET.
- (2) ELEVATIONS SHOWN IN THE TABLE ARE BOTTOM OF SLAB ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION, WITH ALLOWANCE FOR DEFLECTION DUE TO GIRDER WEIGHT.

NOTE:  
SEE BR. SH. 13 OF 20 FOR SUPERSTRUCTURE NOTES AND QUANTITIES.

STATE OF NEW HAMPSHIRE												
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN												
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366			
LOCATION			U.S. 302 OVER SAWYER RIVER									
DECK SECTION & DETAILS										BRIDGE SHEET		
BY		DATE		BY		DATE		REVISIONS AFTER PROPOSAL		DATE		
DESIGNED	JCA	5/90		CHECKED	ABP	6/90				12 OF 20		
DRAWN	JCA	5/90		CHECKED	ABP	6/90				FILE NUMBER		
TRACED				CHECKED				FEDERAL PROJECT NO.		SHEET NO.		
QUANTITIES		JCA		7/90		CHECKED		ABP		8/90		
									BRF -032-1 (20)		TOTAL SHEETS	
									24		45	

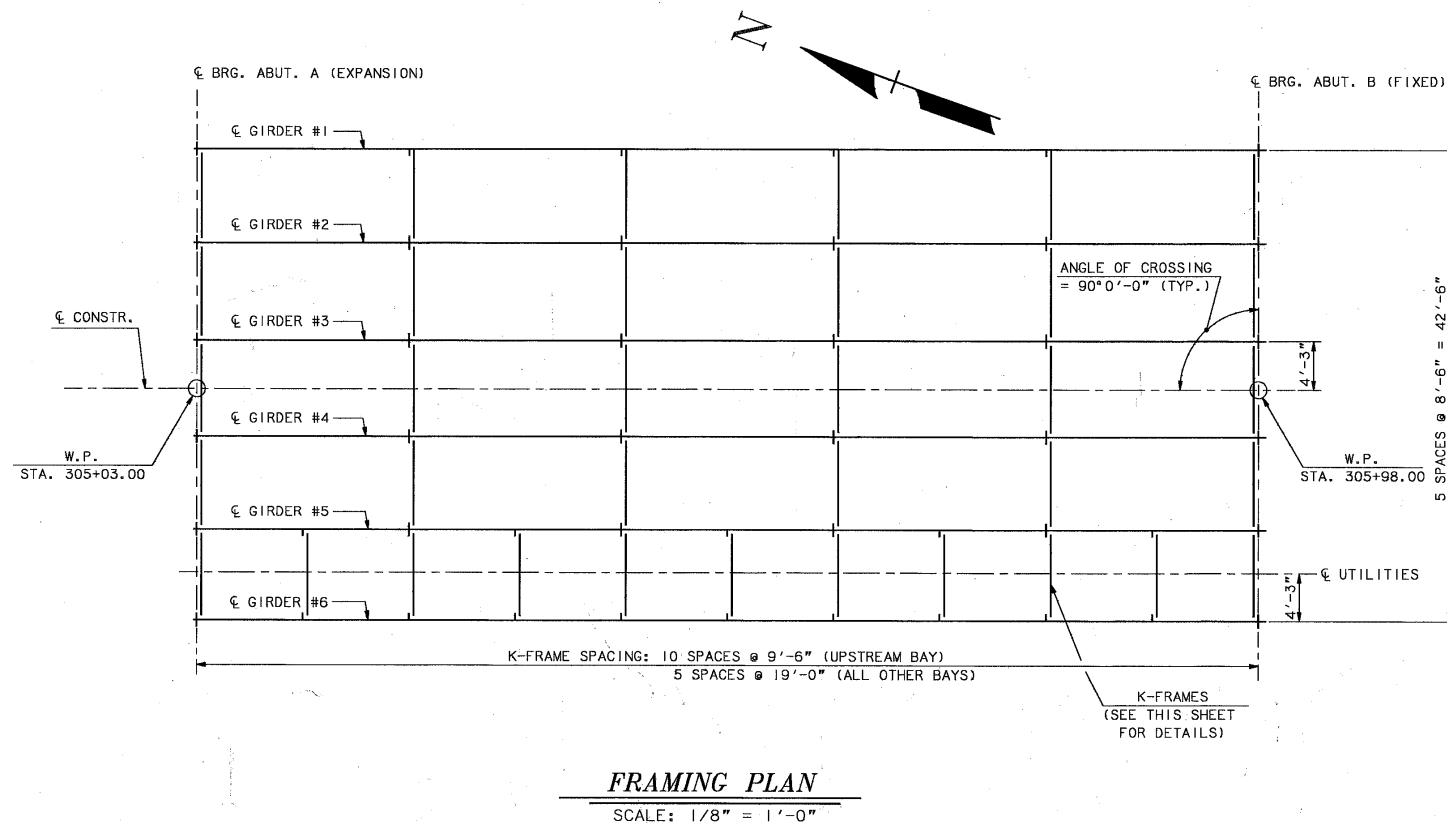
WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE
DECKSECT	DECKSECT	STEEL-SUPER.FGB	AS NOTED

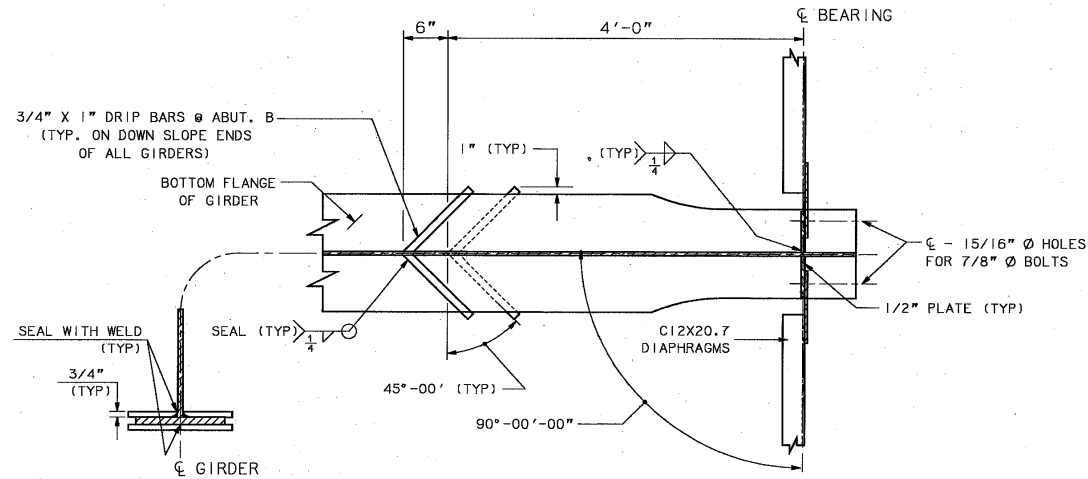


- (1) ALL STRUCTURAL STEEL SHALL BE ASHTO M270 GRADE 50W (ASTM A709 GRADE 50W), UNPAINTED. PAY UNDER ITEM 550.1.
- (2) ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" Ø HIGH STRENGTH BOLTS (ASTM A325 TYPE 3) IN 15/16" Ø HOLES.
- (3) THE STATE WILL SHOP INSPECT THE FABRICATION OF THE STRUCTURAL STEEL.
- (4) THE NOTCH TOUGHNESS REQUIREMENTS OF NHDOT STANDARD SPECIFICATIONS SHALL APPLY TO THE WEB AND BOTTOM FLANGES OF THE GIRDERS.
- (5) THE STRUCTURAL STEEL FABRICATOR SHALL ARRANGE FOR NON-DESTRUCTIVE TESTING OF WELDS. COST INCLUDED IN ITEM 550.1.
- (6) THE ENDS OF ALL GIRDERS, BEARING STIFFENERS, AND DIAPHRAGMS AT THE E OF ABUTMENTS SHALL BE VERTICAL AFTER FULL DEAD LOAD DEFLECTION.
- (7) ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO GIRDER FLANGES FOR CONSTRUCTION PURPOSES SHALL NOT BE PERMITTED. EXCEPT AS APPROVED BY THE BUREAU OF BRIDGE DESIGN.
- (8) ALL SHEAR CONNECTORS SHALL BE FIELD STUD ARC WELDED TO THE TOP FLANGE.
- (9) GIRDERS SHALL BE CAMBERED FOR FULL DEAD LOAD DEFLECTION. THE CAMBER SHALL BE ACHIEVED BY CUTTING THE WEB PLATE ACCORDING TO THE DIMENSIONS SHOWN ON BRIDGE SHEET 14 OF 20.
- (10) THE GRAVITY AXIS OF K-FRAME MEMBERS SHALL INTERSECT AS NEARLY AS PRACTICABLE AT THE E OF THE GIRDER. K-FRAME MEMBERS SHALL BE SHOP WELDED TO THE GUSSET PLATES.
- (11) THE LOCATION OF WEB AND FLANGE SHOP SPLICES SHALL BE SUBJECT TO THE APPROVAL OF THE BUREAU OF BRIDGE DESIGN. WEB SPLICES SHALL BE AT LEAST 1'-0" FROM FLANGE SPLICES AND/OR TRANSVERSE CONNECTION PLATES.
- (12) THE CONTRACTOR SHALL SUBMIT DRAWINGS SHOWING THE METHOD OF FIELD ERECTION. THESE DRAWINGS SHALL BE APPROVED BEFORE ERECTION STARTS.

SUPERSTRUCTURE QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
403.911	HOT BITUMINOUS BRIDGE PAVEMENT, 1" BASE COURSE WITH POLYESTER FIBER	27	TON
520.7	CONCRETE BRIDGE DECK (EST. 135 CY)	1	U
534.3	WATER REPELLENT (SILANE - SILOXANE)	8	GAL
538.1	BARRIER MEMBRANE	476	SY
541.5	PVC WATERSTOPS, NH TYPE 5	93	LF
544.2	REINFORCING STEEL-EPOXY COATED	41,611	LB
547.	SHEAR CONNECTORS (1,350 TOTAL)	1	U
550.1	STRUCTURAL STEEL (EST. 132,000 LBS.)	1	U
550.2	BRIDGE SHOES	1	U
563.12	BRIDGE RAILING ST	199	LF
609.3	STRAIGHT GRANITE CURB (BRIDGE)	199	LF
562.1	ELASTOMERIC SEALANT	65	CI

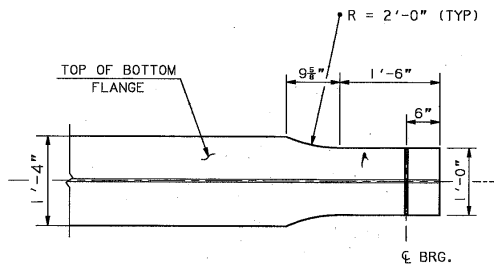
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN											
TOWN		HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366	
LOCATION		U.S. 302 OVER SAWYER RIVER									
FRAMING PLAN & DETAILS										BRIDGE SHEET	
		BY	DATE			BY	DATE	REVISIONS AFTER PROPOSAL		DATE	13 of 20
DESIGNED	JCA	3/90	CHECKED	ABP	6/90						FILE NUMBER
DRAWN	JCA	5/90	CHECKED	ABP	6/90						2-6-2-3
TRACED			CHECKED			FEDERAL PROJECT NO.		SHEET NO.		TOTAL SHEETS	
QUANTITIES	JCA	7/90	CHECKED	ABP	8/90	BRF-032-1 (20)		25		45	





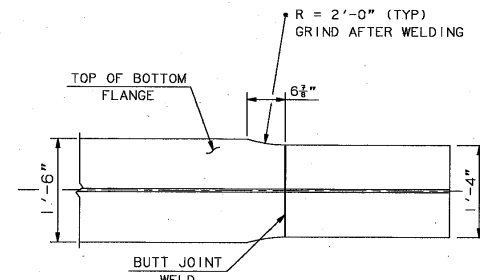
**END DIAPHRAGM AND DRIP BAR DETAILS**

SCALE: 1" = 1'-0"



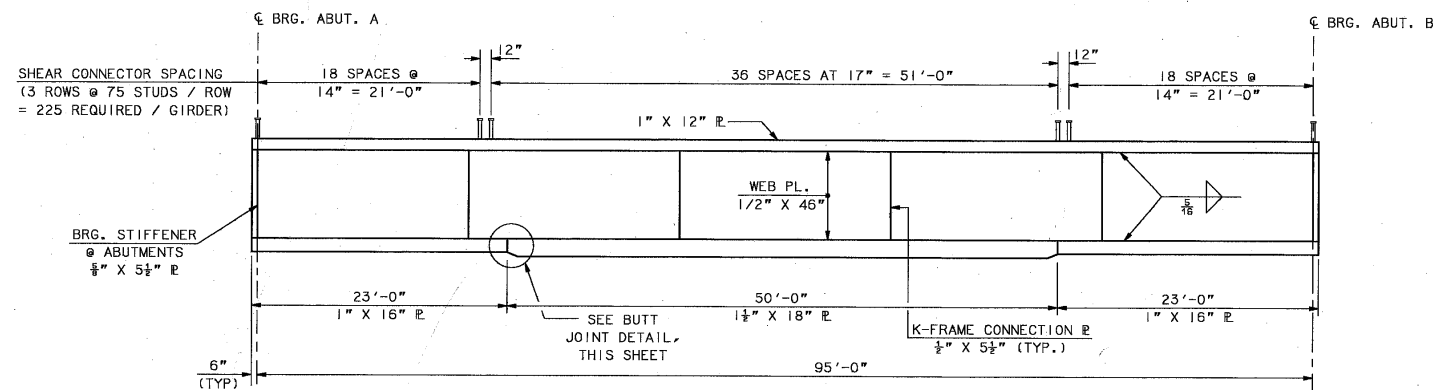
**FLANGE WIDTH TRANSITION DETAIL @ ABUTMENTS**

SCALE: 3/4" = 1'-0"



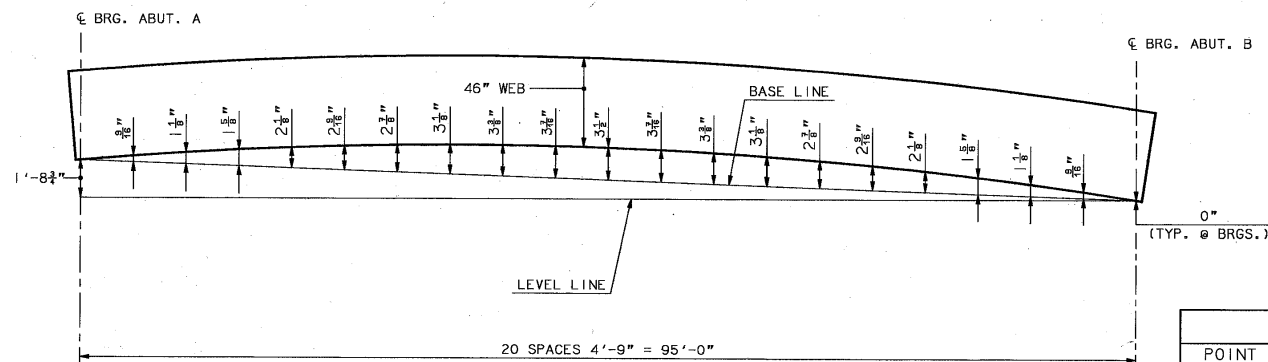
**FLANGE WIDTH TRANSITION DETAIL @ BUTT JOINT**

SCALE: 3/4" = 1'-0"



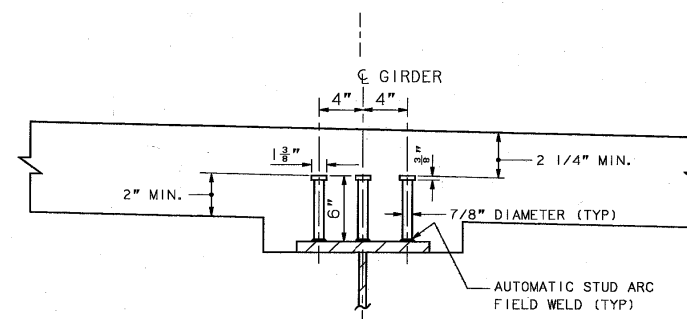
**GIRDER ELEVATION**

SCALE: NONE



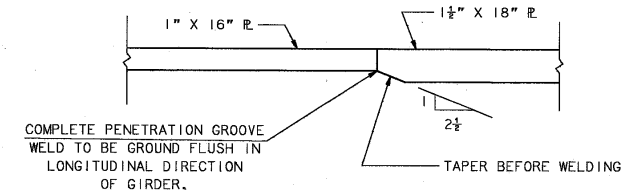
**GIRDER WEB LAYOUT**

SCALE: NONE



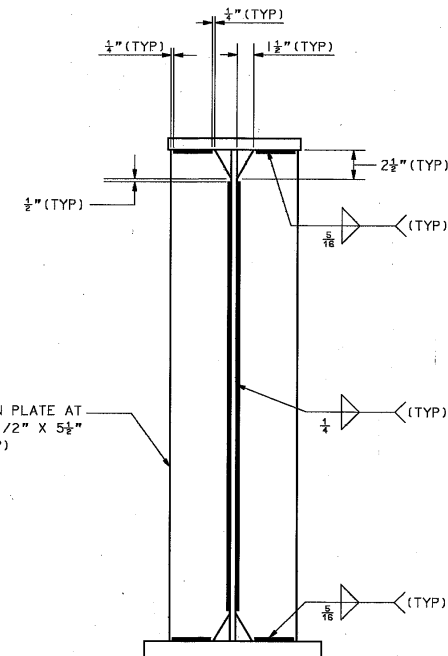
**SHEAR CONNECTOR DETAIL**

SCALE: 1 1/2" = 1'-0"



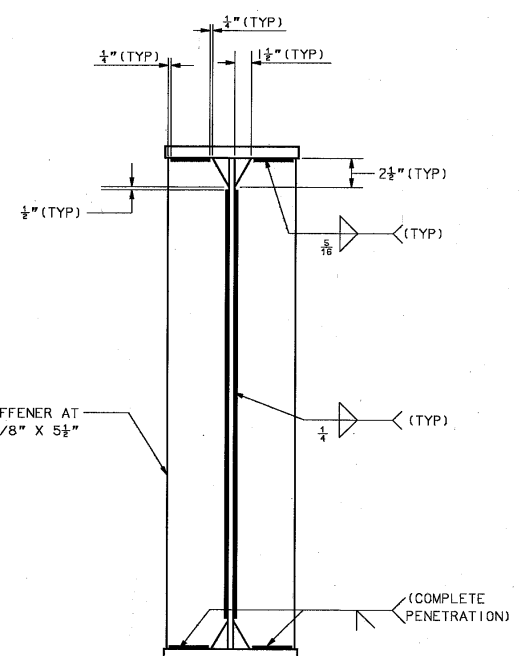
**FLANGE THICKNESS TRANSITION DETAIL**

SCALE: 3" = 1'-0"



**CONNECTION PLATE DETAIL**

SCALE: 1 1/2" = 1'-0"



**BEARING STIFFENER DETAIL**

SCALE: 1 1/2" = 1'-0"

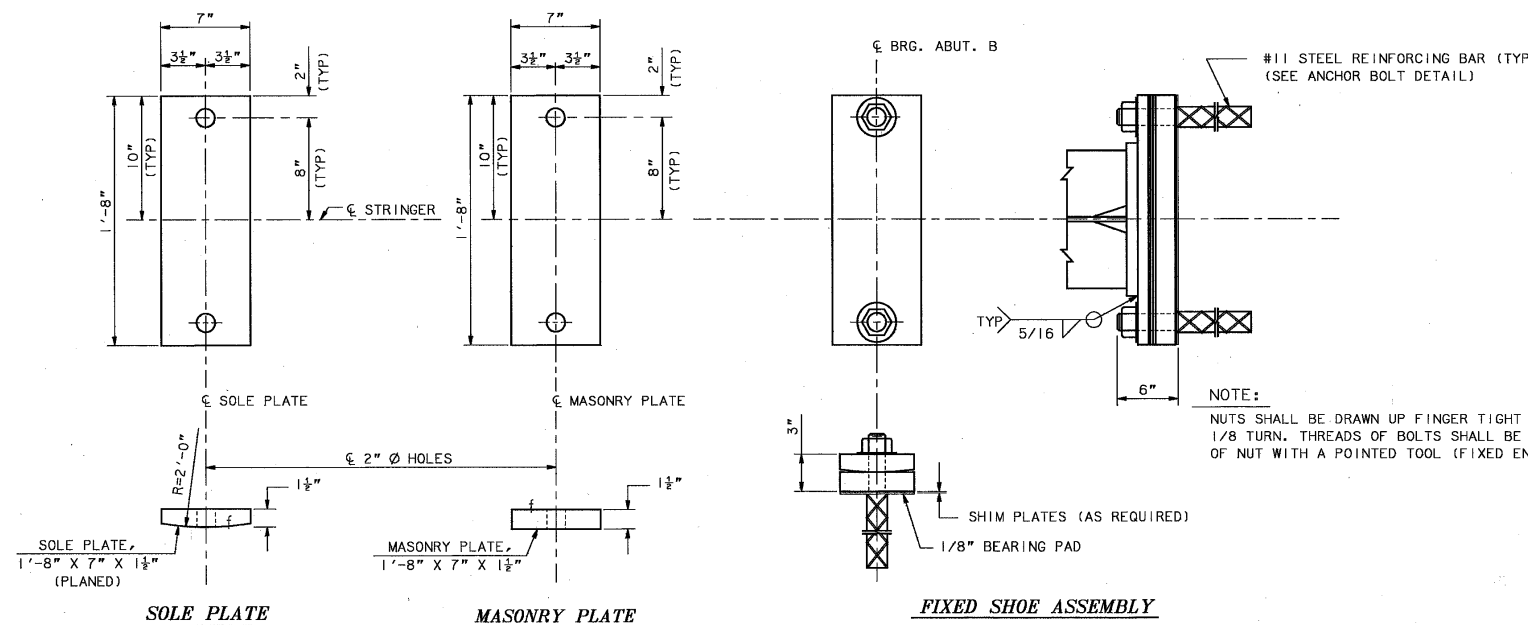
DEAD LOAD DEFLECTION BREAKDOWN					
POINT ON BEAM	¢ BRG ABUTMENT A	.25L	.5L	.75L	¢ BRG ABUTMENT B
GIRDER DL	0"	3/8"	3/8"	3/8"	0"
CONCRETE SLAB DL	0"	1 3/8"	2 3/8"	1 3/8"	0"
SUPERIMPOSED DL	0"	5/8"	3/8"	5/8"	0"
TOTAL DEFLECTION	0"	2 3/8"	3 3/8"	2 3/8"	0"

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	HARTS LOCATION	BRIDGE NO.	235/059	STATE PROJECT	P-4366
LOCATION	U.S. 302 OVER SAWYER RIVER				
GIRDER LAYOUT & DETAILS					BRIDGE SHEET
DESIGNED	JCA	5/90	CHECKED	ABP	6/90
DRAWN	JCA	5/90	CHECKED	ABP	6/90
TRACED			CHECKED		
QUANTITIES	JCA	7/90	CHECKED	ABP	8/90
FEDERAL PROJECT NO. BRF-032-1 (20)					SHEET NO. 26
					TOTAL SHEETS 45

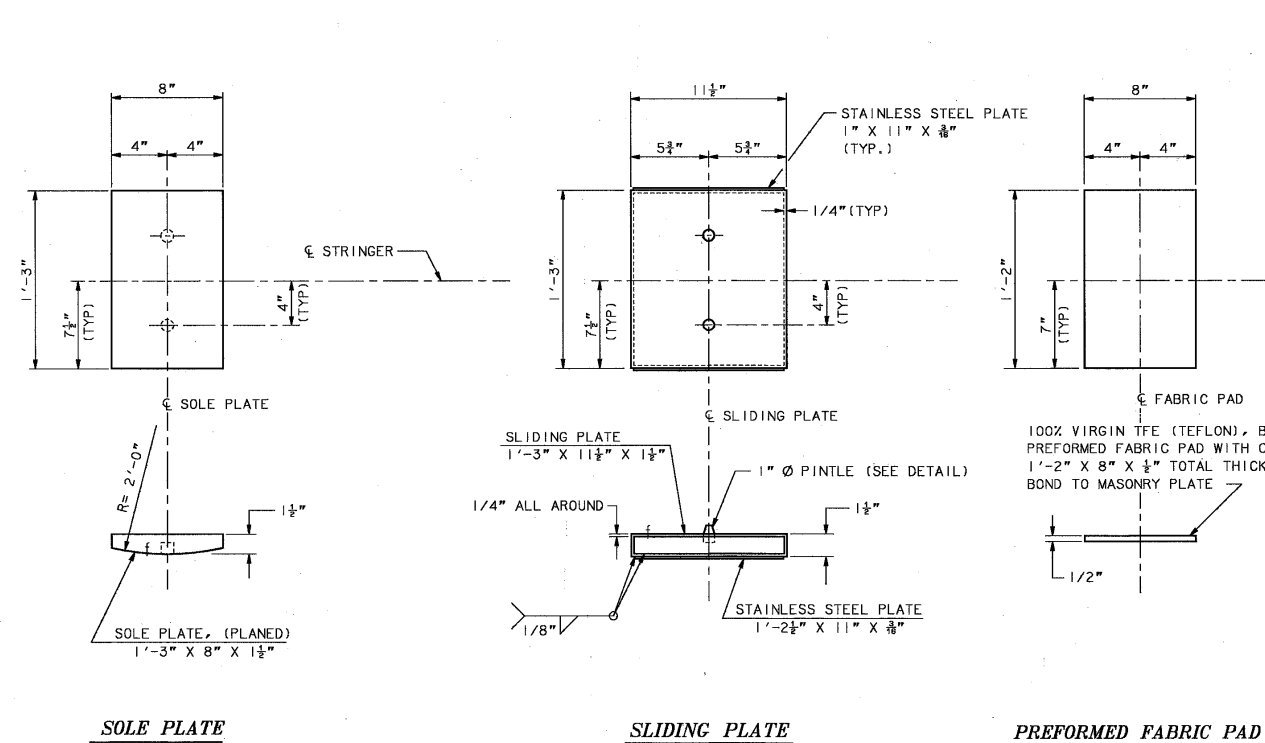
WINDOW NAME	DRAWING NAME	*FCB FILE NAME	SHEET SCALE
GLAYOUT	GLAYOUT	STEEL-SUPER	AS NOTED



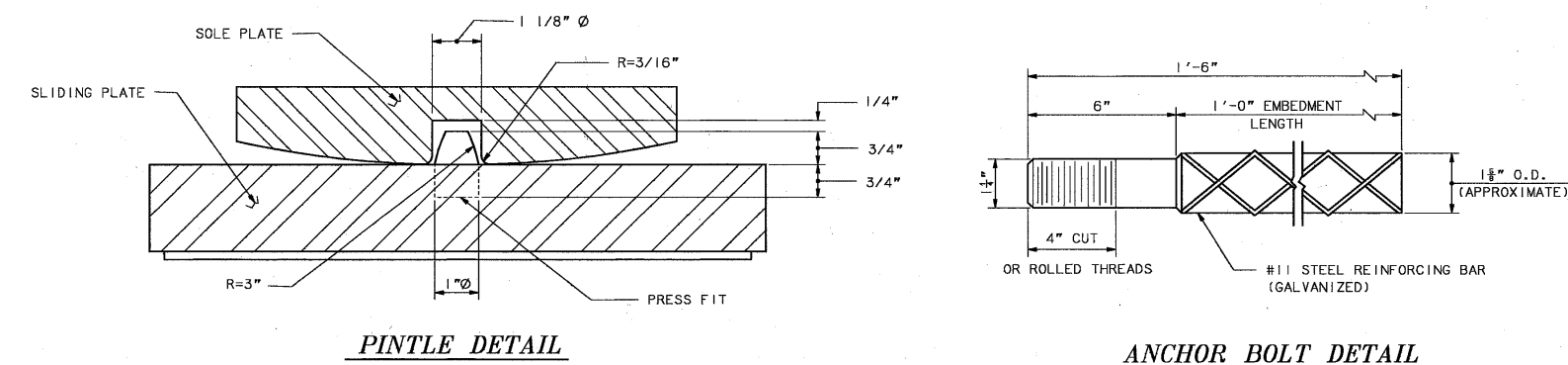
# BRIDGE SHOE NOTES



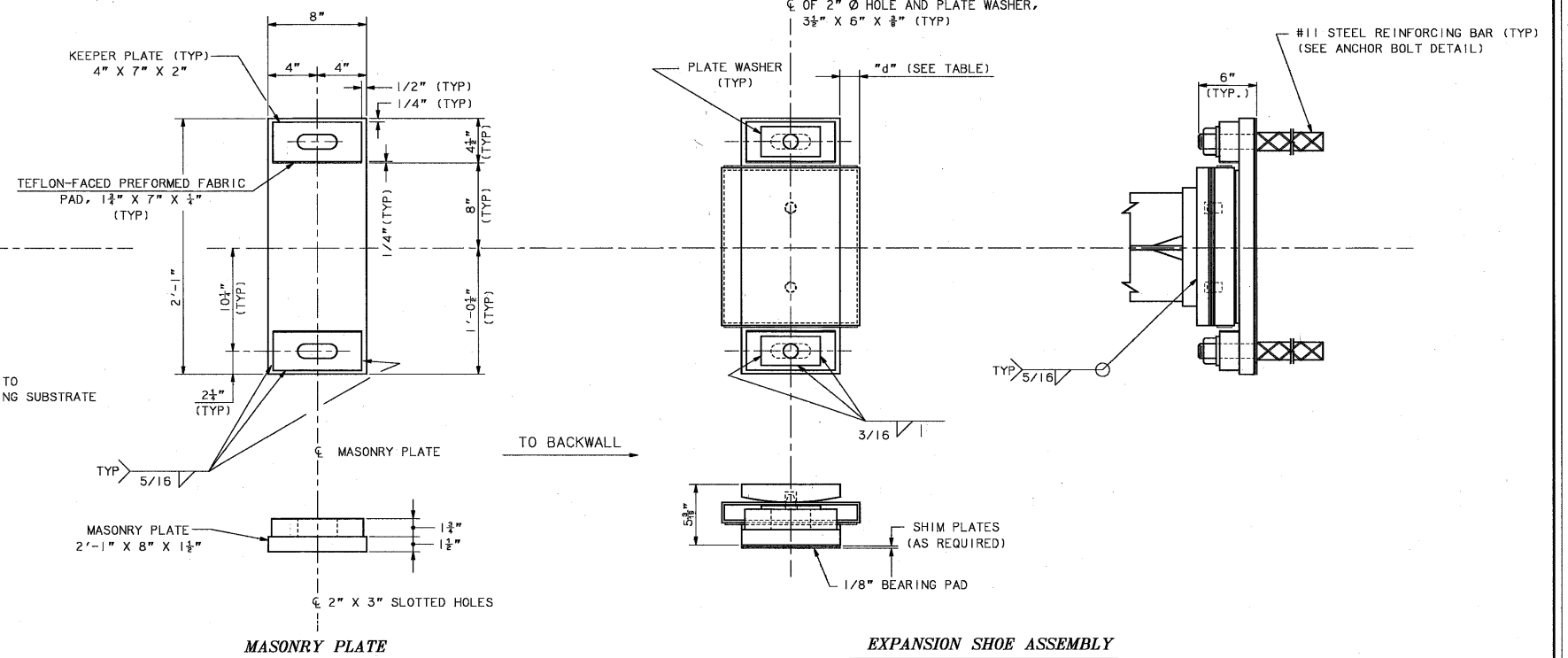
## FIXED SHOE DETAILS



## EXPANSION SHOE DETAILS



- (1) EXPANSION SHOE AND FIXED SHOE ASSEMBLIES, INCLUDING ANCHOR BOLTS, SHALL BE PAID FOR AS BRIDGE SHOES, ITEM 550.2.
- (2) ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- (3) ALL STEEL PLATES SHALL CONFORM TO AASHTO M270 GRADE 50W (ASTM A709 GRADE 50W), UNPAINTED, EXCEPT 3/16" STAINLESS STEEL PLATES SHALL BE AISI TYPE 304 (ASTM A240).
- (4) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATIONS, 1983, AS AMENDED.
- (5) SEE NOTE #2 ON BRIDGE SHEET 9 OF 20 FOR THE PROCEDURE TO DETERMINE THE THICKNESS OF SHIM PLATES.
- (6) THE STAINLESS STEEL SURFACE IN CONTACT WITH THE TEFLON SHALL HAVE A 2B FINISH.
- (7) BOND THE PREFORMED FABRIC PADS TO THE TOP OF THE MASONRY PLATES AND SIDES OF THE KEEPER PLATES WITH AN APPROVED ADHESIVE. THE SURFACE PREPARATION OF THE FABRIC PADS AND THE STEEL PLATES SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- (8) THE BONDED PREFORMED FABRIC PADS, STAINLESS STEEL PLATES, AND ADHESIVES USED SHALL BE THOSE MANUFACTURED BY AN APPROVED SUPPLIER, WITH PROVEN EXPERIENCE IN THE FIELD.
- (9) BEARING SURFACES MARKED "f", OR SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH AASHTO DIVISION II, SECTION 10.20.
- (10) THE PREFORMED FABRIC PADS SHALL COMPLY WITH AASHTO DIVISION II, SECTION 10.3.12, "PREFORMED FABRIC PADS", AND MILITARY SPECIFICATIONS MIL-C-882, AND SHALL MEET THE ENVIRONMENTAL REQUIREMENTS OF MIL-E-5272. THE TEFLON (UNFILLED) SHEET SHALL MEET THE REQUIREMENTS OF AASHTO DIVISION II, SECTION 27. A CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED FOR THE ABOVE.



TEMPERATURE	"d"
30° F	1 5/8"
45° F	1 3/4"
60° F	1 7/8"
75° F	2"
90° F	2 1/8"

STATE OF NEW HAMPSHIRE											
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN											
TOWN	HARTS LOCATION		BRIDGE NO.		235/059		STATE PROJECT		P-4366		
LOCATION			U.S. 302 OVER SAWYER RIVER								
BRIDGE SHOES									BRIDGE SHEET		
		BY	DATE				BY		DATE		
DESIGNED		NHDOT		CHECKED		ABP		DATE		6/90	
DRAWN		CMC		CHECKED		MWR		DATE		1/90	
TRACED		JCA		CHECKED		ABP		DATE		6/90	
QUANTITIES		JCA		CHECKED		ABP		DATE		8/90	
FEDERAL PROJECT NO.								SHEET NO.		TOTAL SHEETS	
BRF-032-1 (20)								28		45	

WINDOW NAME	DRAWING NAME	*FGB FILE NAME	SHEET SCALE	TRACED	JCA	7/90	CHECKED	ABP	8/90	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BSTLRAIL	BSTLRAIL	BR-STANDARDS.FGB	AS NOTED	QUANTITIES	JCA	7/90	CHECKED	ABP	8/90	BRF-032-1 (20)	29	45



MARK	SIZE	LENGTH	NO. OF PIECES	TYPE OF BEND	A	B	C	D	E	F	G	H	J	K	R	O
FOOTING A (BRIDGE SHEET 4 OF 20)																
FA1	#7	12'-0"	50	-												
FA2	#6	12'-0"	187	-												
FA3	#5	25'-10"	52	-												
FA4	#5	3'-8"	66	-												
FA5	#6	5'-9"	50	N3		1'-0"	1'-2"	3'-7"						0"	9"	
FA6	#5	10'-5"	48	N3		1'-0"	1'-2"	8'-3"						0"	9"	
FA7	#5	10'-7"	52	-												
FA8	#7	7'-3"	10	N3		1'-0"	1'-2"	5'-1"						5 1/8"	9"	
FA9	#7	10'-2"	12	N3		1'-0"	1'-2"	8'-0"						8"	9"	
SECTION SUMMARY-TOTAL WEIGHT (LBS.)																
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	SECTION TOTAL				
544	0	0	2749.0	3802.3	1623.9	0	0	0	0	0	0	8175.2				
544.2 EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0				
544.21 EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	0				

ABUTMENT A (BRIDGE SHEET 6 OF 20)																
A1	#5	12'-2"	44	-												
A2	#5	7'-7"	44	N2		0"	1'-3"	2'-10"	3'-6"			2'-5 3/4"	2'-5 3/4"			
A3	#6	4'-6"	44	N3		1'-0"	6 1/4"	2'-11 3/4"				0"	4"			
A4	#5	12'-9"	50	17		6'-0"	9"	6'-0"								
A5	#5	5'-3"	44	17		1'-0"	3'-3"	1'-0"								
A6	#5	4'-9"	2	17		1'-0"	2'-9"	1'-0"								
A7	#5	4'-8"	32	N8		2'-5"	2'-3"									
A8	#5	23'-0"	28	-												
A9	#5	21'-6"	6	-												
A10	#5	22'-11"	18	-												
A11	#5	22'-7"	36	-												
A12	#5	15'-3"	52	-												
A13	#5	14'-0"	2	-												
A14	#5	16'-0"	4	-												
A15	#5	21'-7"	2	-												
A16	#5	2'-9"	4	-												
A17	#5	1'-3"	4	-												
SECTION SUMMARY-TOTAL WEIGHT (LBS.)																
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	SECTION TOTAL				
544	0	0	5047.2	297.4	0	0	0	0	0	0	0	5344.6				
544.2 EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0				
544.21 EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	0				

STANDARD INDUSTRY BENDS, STIRRUPS, & TIES																
RECOMMENDED END HOOKS ALL GRADES								STIRRUP & TIE HOOK DIMENSIONS GRADES 40-60 ksi								
180° HOOKS				90° HOOKS				90° HOOKS				135° HOOKS				
BAR SIZE	D(Ø)	A or G	J	A or G	BAR SIZE	D(Ø)	A or G	A or G	H(appr)	BAR SIZE	D(Ø)	A or G	A or G	H(appr)	BAR SIZE	D(Ø)
#3	2 1/4"	5"	3"	6"	#3	1 1/2"	4"	4"	2 1/2"	#3	1 1/2"	4"	4"	2 1/2"	#3	1 1/2"
#4	3"	6"	4"	8"	#4	2"	4 1/2"	4 1/2"	3"	#4	2"	4 1/2"	4 1/2"	3"	#4	2"
#5	3 3/4"	7"	5"	10"	#5	2 1/2"	6"	5 1/2"	3 1/2"	#5	2 1/2"	6"	5 1/2"	3 1/2"	#5	2 1/2"
#6	4 1/2"	8"	6"	1'-0"	#6	4 1/2"	1'-0"	7 1/2"	4 1/2"	#6	4 1/2"	1'-0"	7 1/2"	4 1/2"	#6	4 1/2"
#7	5 1/2"	10"	7"	1'-2"	#7	5 1/2"	1'-2"	9"	5 1/2"	#7	5 1/2"	1'-2"	9"	5 1/2"	#7	5 1/2"
#8	6"	11"	8"	1'-4"	#8	6"	1'-4"	10 1/2"	6"	#8	6"	1'-4"	10 1/2"	6"	#8	6"
#9	9 1/2"	1'-3"	11 3/4"	1'-7"	NOTE: D=finished inside bend Ø of hook. See 1986 CRSI Manual p6-3&4.											
#10	10 1/2"	1'-5"	1'-1 1/2"	1'-10"	For additional data on standard bar bends not shown on this sheet see 1986 CRSI Manual p6-3.											
#11	12"	1'-7"	1'-2 1/2"	2'-0"												
#14	18 1/2"	2'-3"	1'-9 3/4"	2'-7"												

MARK	SIZE	LENGTH	NO. OF PIECES	TYPE OF BEND	A	B	C	D	E	F	G	H	J	K	R	O
FOOTING B (BRIDGE SHEET 8 OF 20)																
FB1	#5	11'-0"	72	-												
FB2	#6	11'-0"	121	-												
FB3	#5	25'-10"	48	-												
FB4	#5	3'-8"	66	-												
FB5	#7	8'-6"	50	N3		1'-0"	1'-2"	6'-4"						0"	9"	
FB6	#5	10'-7"	48	-												
FB7	#6	6'-2"	10	N3		1'-0"	1'-2"	4'-0"						4"	9"	
FB8	#7	9'-8"	12	N3		1'-0"	1'-2"	7'-6"						7 1/2"	9"	
SECTION SUMMARY-TOTAL WEIGHT (LBS.)																
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	SECTION TOTAL				
544	0	0	2901.6	2091.8	1105.8	0	0	0	0	0	0	6099.2				
544.2 EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0				
544.21 EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	0				

ABUTMENT B (BRIDGE SHEET 10 OF 20)																
B1	#5	8'-6"	44	-												
B2	#5	6'-5"	44	N2		0"	1'-3"	1'-8"	3'-6"			2'-5 3/4"	2'-5 3/4"			
B3	#6	4'-6"	44	N3		1'-0"	6 1/4"	2'-11 3/4"				0"	4"			
B4	#5	11'-3"	50	17		5'-3"	9"	5'-3"								
B5	#5	5'-3"	44	17		1'-0"	3'-3"	1'-0"								
B6	#5	4'-9"	2	17		1'-0"	2'-9"	2'-0"								
B7	#5	4'-8"	30	N8		2'-5"	2'-3"									
B8	#5	23'-0"	26	-												
B9	#5	21'-6"	6	-												
B10	#5	22'-11"	18	-												
B11	#5	22'-7"	34	-												
B12	#5	13'-9"	52	-												
B13	#5	10'-9"	2	-												
B14	#5	12'-9"	4	-												
B15	#5	19'-11"	2	-												
B16	#5	2'-9"	4	-												
B17	#5	1'-3"	4	-												
SECTION SUMMARY-TOTAL WEIGHT (LBS.)																
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	SECTION TOTAL				
544	0	0	4537.2	297.4	0	0	0	0	0	0	0	4834.6				
544.2 EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0				
544.21 EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	0				

STANDARD N.H. & SPECIAL BENDS																
DETAILED BENDING DIAGRAMS AND DIMENSIONS FOR STANDARD AND SPECIAL BENDS.																
WINDOW NAME: REBAR1, DRAWING NAME: SCHED1, *FGB FILE NAME: BAR-SCHEDULE.FGB, SHEET SCALE: NONE																

MARK	SIZE	LENGTH	NO. OF PIECES	TYPE OF BEND	A	B	C	D	E	F	G	H	J	K	R	O
DECK (BRIDGE SHEET 15 OF 20 )																
D1	#6	45'-8"	398	-												
D2	#5	45'-8"	4	-												
D3	#5	6'-7"	30	-												
D4	#5	34'-4"	345	-												
D5	#5	5'-2"	80	N2		6"	11"	2'-9"	1'-0"			8 1/2"			8 1/2"	
D6	#5	4'-2"	260	N1		7"	1'-1"	10"	1'-2"	6"		1'-1"			4"	
SECTION SUMMARY-TOTAL WEIGHT (LBS.)															SECTION TOTAL	
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18					
544	0	0	0	0	0	0	0	0	0	0	0	0	0			
544.2 EPOXY COATED	0	0	14311.9	27299.4	0	0	0	0	0	0	0	0	41611.3			
544.21,EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	0	0			

MARK	SIZE	LENGTH	NO. OF PIECES	TYPE OF BEND	A	B	C	D	E	F	G	H	J	K	R	O
NW WING (BRIDGE SHEET 7 OF 20 )																
NW1	#5	21'-9"	1	-												
NW2	#5	21'-6"	1	-												
NW3	#5	21'-3"	1	-												
NW4	#5	21'-0"	1	-												
NW5	#5	20'-9"	1	-												
NW6	#5	20'-6"	1	-												
NW7	#5	7'-10"	2	-												
NW8	#5	7'-1"	2	-												
NW9	#5	6'-4"	2	-												
NW10	#5	5'-6"	2	-												
NW11	#5	12'-11"	2	N7			8'-3"	4'-8"				7'-4 1/2"		3'-8 1/4"		
NW12	#5	16'-4"	1	-												
NW13	#5	16'-1"	1	-												
NW14	#5	15'-10"	1	-												
NW15	#5	15'-7"	1	-												
NW16	#5	15'-3"	1	-												
NW17	#5	15'-0"	1	-												
NW18	#6	11'-3"	5	-												
NW19	#5	10'-11"	16	N7			2'-5"	8'-6"				1'-8 1/2"		1'-8 1/2"		
NW20	#5	5'-1"	16	-												
NW21	#5	4'-6"	2	-												
NW22	#5	6'-6"	2	-												
NW23	#5	7'-6"	2	-												
NW24	#5	15'-0"	8	N7			4'-6"	10'-6"				3'-2 1/8"		3'-2 1/8"		
NW25	#5	12'-2"	1	N7			4'-6"	7'-8"				3'-2 1/8"		3'-2 1/8"		
NW26	#5	5'-3"	1	N7			1'-5"	3'-10"				1'-0"		1'-0"		
NW27	#5	2'-3"	1	N7			1'-5"	10"				1'-0"		1'-0"		
NW28	#5	8'-6"	1	N7			1'-0"	7'-6"				8 1/2"		8 1/2"		
NW29	#5	4'-8"	1	N7			1'-0"	3'-8"				8 1/2"		8 1/2"		
NW30	#5	1'-7"	1	N7			1'-0"	7"				8 1/2"		8 1/2"		
NW31	#5	10'-10"	2	N7			9"	10'-1"				2 1/4"		8 3/4"		

SECTION SUMMARY-TOTAL WEIGHT (LBS.)												SECTION TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	0	0	802.3	84.5	0	0	0	0	0	0	0	
544.2 EPOXY COATED 544.21,EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	

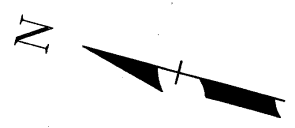
NE WING (BRIDGE SHEET 7 OF 20 )																
NE1	#5	21'-9"	1	-												
NE2	#5	21'-6"	1	-												
NE3	#5	21'-3"	1	-												
NE4	#5	21'-0"	1	-												
NE5	#5	20'-9"	1	-												
NE6	#5	20'-6"	1	-												
NE7	#5	7'-10"	2	-												
NE8	#5	7'-1"	2	-												
NE9	#5	6'-4"	2	-												
NE10	#5	5'-6"	2	-												
NE11	#5	12'-11"	2	N7			8'-3"	4'-8"				7'-4 1/2"		3'-8 1/4"		
NE12	#5	16'-4"	1	-												
NE13	#5	16'-1"	1	-												
NE14	#5	15'-10"	1	-												
NE15	#5	15'-7"	1	-												
NE16	#5	15'-3"	1	-												
NE17	#5	15'-0"	1	-												
NE18	#6	11'-3"	5	-												
NE19	#5	10'-11"	16	N7			2'-5"	8'-6"				1'-8 1/2"		1'-8 1/2"		
NE20	#5	5'-1"	16	-												
NE21	#5	4'-6"	2	-												
NE22	#5	6'-6"	2	-												
NE23	#5	7'-6"	2	-												
NE24	#5	15'-0"	8	N7			4'-6"	10'-6"				3'-2 1/8"		3'-2 1/8"		
NE25	#5	12'-2"	1	N7			4'-6"	7'-8"				3'-2 1/8"		3'-2 1/8"		
NE26	#5	5'-3"	1	N7			1'-5"	3'-10"				1'-0"		1'-0"		
NE27	#5	2'-3"	1	N7			1'-5"	10"				1'-0"		1'-0"		
NE28	#5	8'-6"	1	N7			1'-0"	7'-6"				8 1/2"		8 1/2"		
NE29	#5	4'-8"	1	N7			1'-0"	3'-8"				8 1/2"		8 1/2"		
NE30	#5	1'-7"	1	N7			1'-0"	7"				8 1/2"		8 1/2"		
NE31	#5	10'-10"	2	N7			9"	10'-1"				2 1/4"		8 3/4"		

SECTION SUMMARY-TOTAL WEIGHT (LBS.)												SECTION TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	0	0	802.3	84.5	0	0	0	0	0	0	0	
544.2 EPOXY COATED 544.21,EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	

SW WING (BRIDGE SHEET 11 OF 20 )																
SW1	#5	19'-11"	1	-												
SW2	#5	19'-8"	1	-												
SW3	#5	19'-5"	1	-												
SW4	#5	19'-1"	1	-												
SW5	#5	18'-10"	1	-												
SW6	#5	18'-6"	1	-												
SW7	#5	7'-10"	2	-												
SW8	#5	7'-0"	2	-												
SW9	#5	6'-4"	2	-												
SW10	#5	5'-6"	2	-												
SW11	#5	12'-11"	2	N7			8'-3"	4'-8"				7'-4 1/2"		3'-8 3/4"		
SW12	#5	15'-2"	1	-												
SW13	#5	14'-11"	1	-												
SW14	#5	14'-7"	1	-												
SW15	#5	14'-4"	1	-												
SW16	#5	14'-1"	1	-												
SW17	#5	13'-9"	1	-												
SW18	#5	10'-10"	5	-												
SW19	#5	10'-11"	15	N7			2'-5"	8'-6"				1'-8 1/2"		1'-8 1/2"		
SW20	#5	5'-1"	15	-												
SW21	#5	4'-6"	2	-												
SW22	#5	6'-6"	2	-												
SW23	#5	7'-6"	4	-												
SW24	#5	15'-0"	8	N7			4'-6"	10'-6"				3'-2 1/8"		3'-2 1/8"		
SW25	#5	12'-2"	1	N7			4'-6"	7'-8"				3'-2 1/8"		3'-2 1/8"		
SW26	#5	5'-3"	1	N7			1'-5"	3'-10"				1'-0"		1'-0"		
SW27	#5	2'-3"	1	N7			1'-5"	10"				1'-0"		1'-0"		
SW28	#5	8'-6"	1	N7			1'-0"	7'-6"				8 1/2"		8 1/2"		
SW29	#5	4'-8"	1	N7			1'-0"	3'-8"				8 1/2"		8 1/2"		
SW30	#5	1'-7"	1	N7			1'-0"	7"				8 1/2"		8 1/2"		
SW31	#5	10'-10"	2	N7			9"	10'-1"				2 1/4"		8 3/4"		

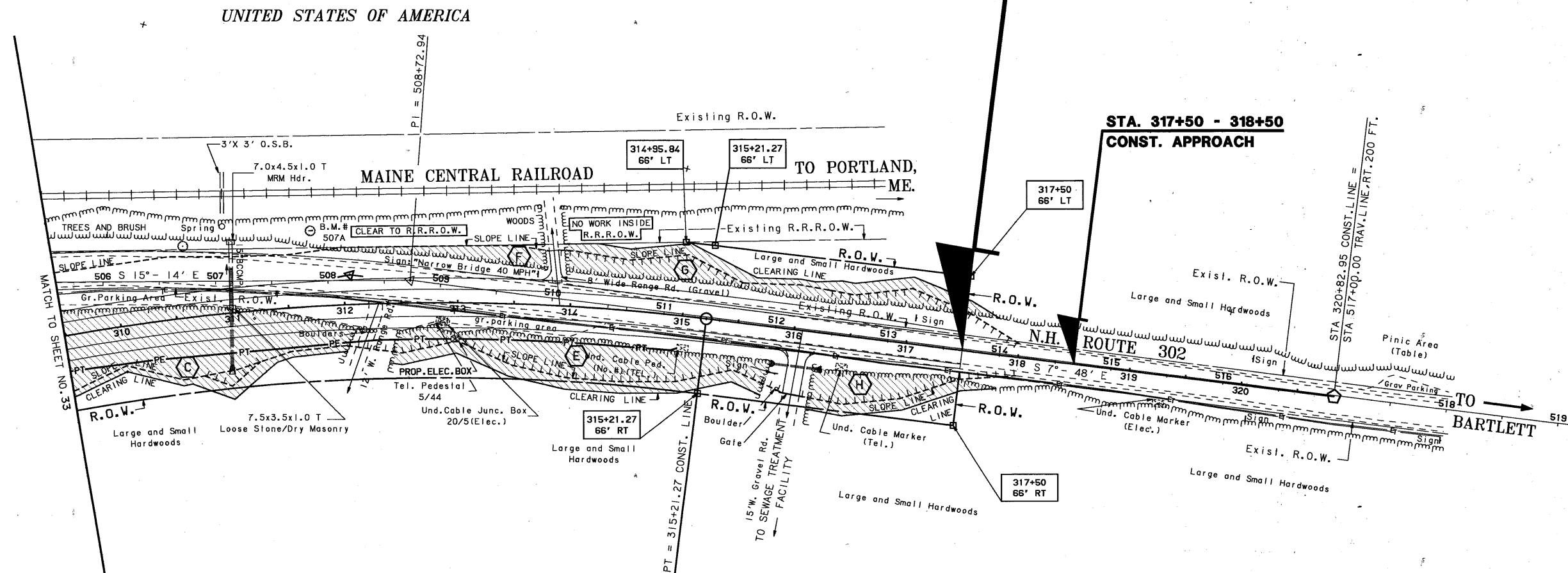
SECTION SUMMARY-TOTAL WEIGHT (LBS.)												SECTION TOTAL
ITEM NO.	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
544	0	0	838.2	0	0	0	0	0	0	0	0	
544.2 EPOXY COATED 544.21,EPOXY COATED CONECTR	0	0	0	0	0	0	0	0	0	0	0	

SE WING				(BRIDGE SHEET 11 OF 20 )												
SE1	#5	19'-11"	1	-												
SE2	#5	19'-8"	1	-												
SE3	#5	19'-5"	1	-												
SE4	#5	19'-1"	1	-												
SE5	#5	18'-10"	1	-												
SE6	#5	18'-6"	1	-												
SE7	#5	7'-10"	2	-												
SE8	#5	7'-0"	2	-												
SE9	#5	6'-4"	2	-												
SE10	#5	5'-6"	2	-												
SE11	#5	12'-11"	2	N7			8'-3"	4'-8"				7'-4 1/2"		3'-8 3/4"		
SE12	#5	15'-2"	1	-												
SE13	#5	14'-11"	1	-												
SE14	#5	14'-7"	1	-												
SE15	#5	14'-4"	1	-												
SE16	#5	14'-1"	1	-												
SE17	#5	13'-9"	1	-												
SE18	#5	10'-10"	5	-												
SE19	#5	10'-11"	15	N7			2'-5"	8'-6"				1'-8 1/2"		1'-8 1/2"		
SE20	#5	5'-1"	15	-												
SE21	#5	4'-6"	2	-												
SE22	#5	6'-6"	2	-												
SE23	#5	7'-6"	4	-												
SE24	#5	15'-0"	8	N7			4'-6"	10'-6"				3'-2 1/8"		3'-2 1/8"		
SE25	#5	12'-2"	1	N7			4'-6"	7'-8"				3'-2 1/8"		3'-2 1/8"		
SE26	#5	5'-3"	1	N7			1'-5"	3'-10"				1'-0"		1'-0"		
SE27	#5	2'-3"	1	N7			1'-5"	10"				1'-0"		1'-0"		
SE28	#5	8'-6"	1	N7			1'-0"	7'-6"				8 1/2"		8 1/2"		
SE29	#5	4'-8"	1	N7			1'-0"	3'-8"				8 1/2"		8 1/2"		
SE30	#5	1'-7"	1	N7			1'-0"	7"				8 1/2"		8 1/2"		
SE31	#5	10'-10"	2	N7			9"	10'-1"				2 1/4"		8 3/4"		

[illegible]

GENERAL PLANS			
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	33	45

**STA 317+50**  
**END BRF-032-1(20)**



UNITED STATES OF AMERICA

## BENCH MARKS

B.M. #507A - STA. 311+73, LT. 68', RTE. 302. HORIZ.  
R.R. SPIKE IN A 6" BEECH TREE.  
ELEV. = 866.75 BOOK 11479, PG. 56.

CONST. CURVE NO. 2

$P| = 312 + 08.35$   
 $\Delta = 18^{\circ} - 57' - 00''$  RT.  
 $D = 3^{\circ} - 00' - 00''$   
 $T = 318.74'$   
 $R = 1909.86'$   
 $L = 631.67'$   
 $E = 26.42'$

[illegible]

NOTEBOOKS	
BOOK <b>9613</b>	PAGE 37, 38, 58-60
BOOK <b>9185</b>	PAGE 25-26, 36-38
BOOK <b>10184</b>	PAGE 39-40

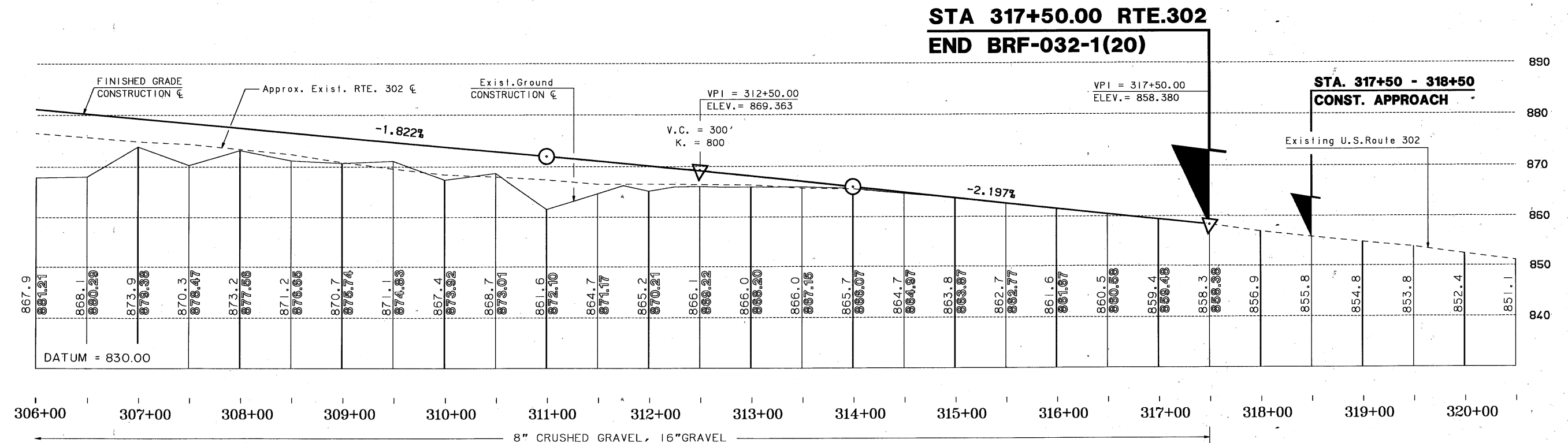
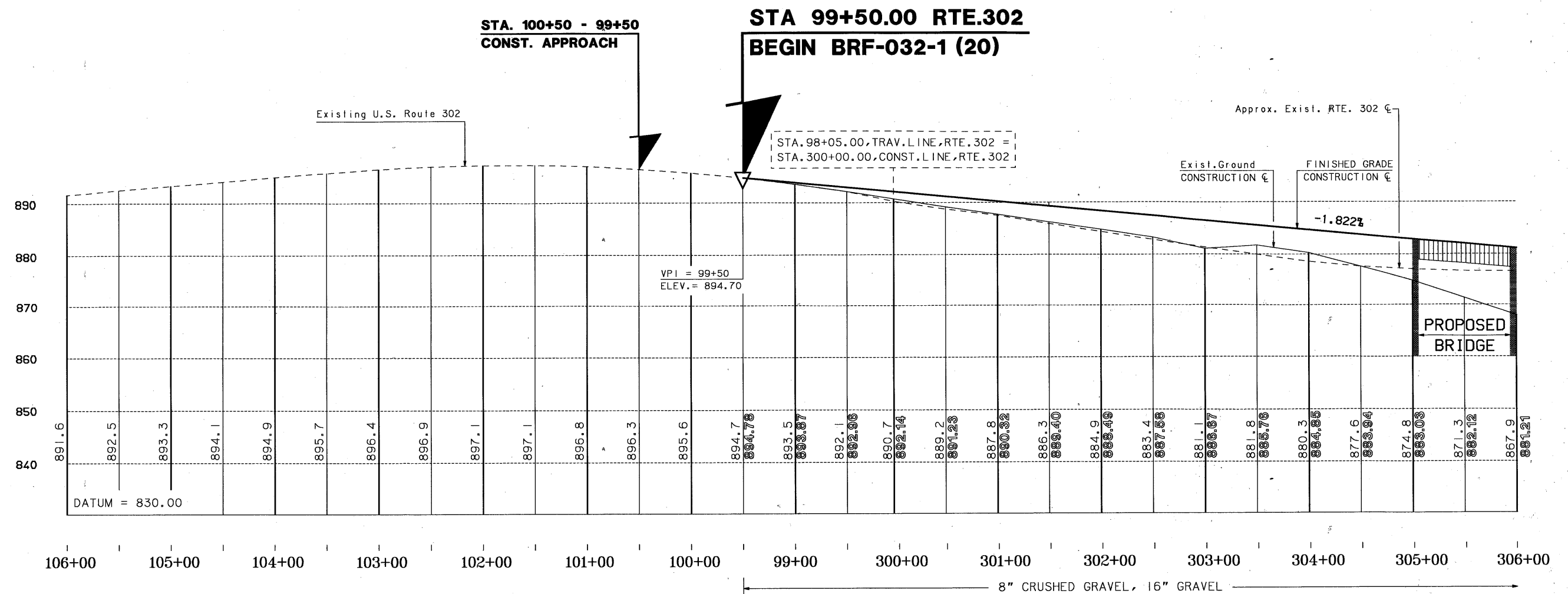
EXISTING DETAIL	DATE
PROPOSED DESIGN	DATE <b>8-13-90</b>
SHEET CHECKED	DATE
AS BUILT DETAILS	DATE

GENERAL PLANS			
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
RRF-032-1(20)	P-4366	34	45

EXISTING DETAIL		DATE
PROPOSED DESIGN		DATE <b>4-27-90</b>
SHEET CHECKED		DATE
AS BUILT DETAILS		DATE

NOTEBOOKS		NUMBER	DATE	STATION	STATION	DESCRIPTION
BOOK	PAGE					
BOOK	PAGE					
BOOK	PAGE					
BOOK	PAGE					

REVISIONS AFTER PROPOSAL					
NUMBER	DATE	STATION	STATION	DESCRIPTION	



FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	35	45



DESCRIPTION
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[illegible]

NOTEBOOKS		
BOOK	<b>9613</b>	PAGE 27, 37, 38, 58-62
BOOK	<b>9185</b>	PAGE 25-29, 35-38
BOOK	<b>10184</b>	PAGE 38-40

PROPOSED DESIGN	STEVE LEBARON	DATE	8-13-90
SHEET CHECKED		DATE	
AS BUILT DETAILS		DATE	



SSL	SINGLE SOLID LINE (WHITE)
DSL	DOUBLE SOLID LINE (YELLOW)
DL (SW/B)	DOUBLE LINE (SOLID WITH BROKEN) (YELLOW)

**NOTE: PASSING ZONES SHALL BE VERIFIED IN FIELD BY BUREAU OF TRAFFIC PRIOR TO FINAL PAVEMENT MARKING**

CONST. CURVE NO. 2

---

P| = 312 + 08.35  
Δ = 18° - 57' - 00" RT.  
D = 3° - 00' - 00"  
T = 318.74'  
R = 1909.86'  
L = 631.67'  
E = 26.42'

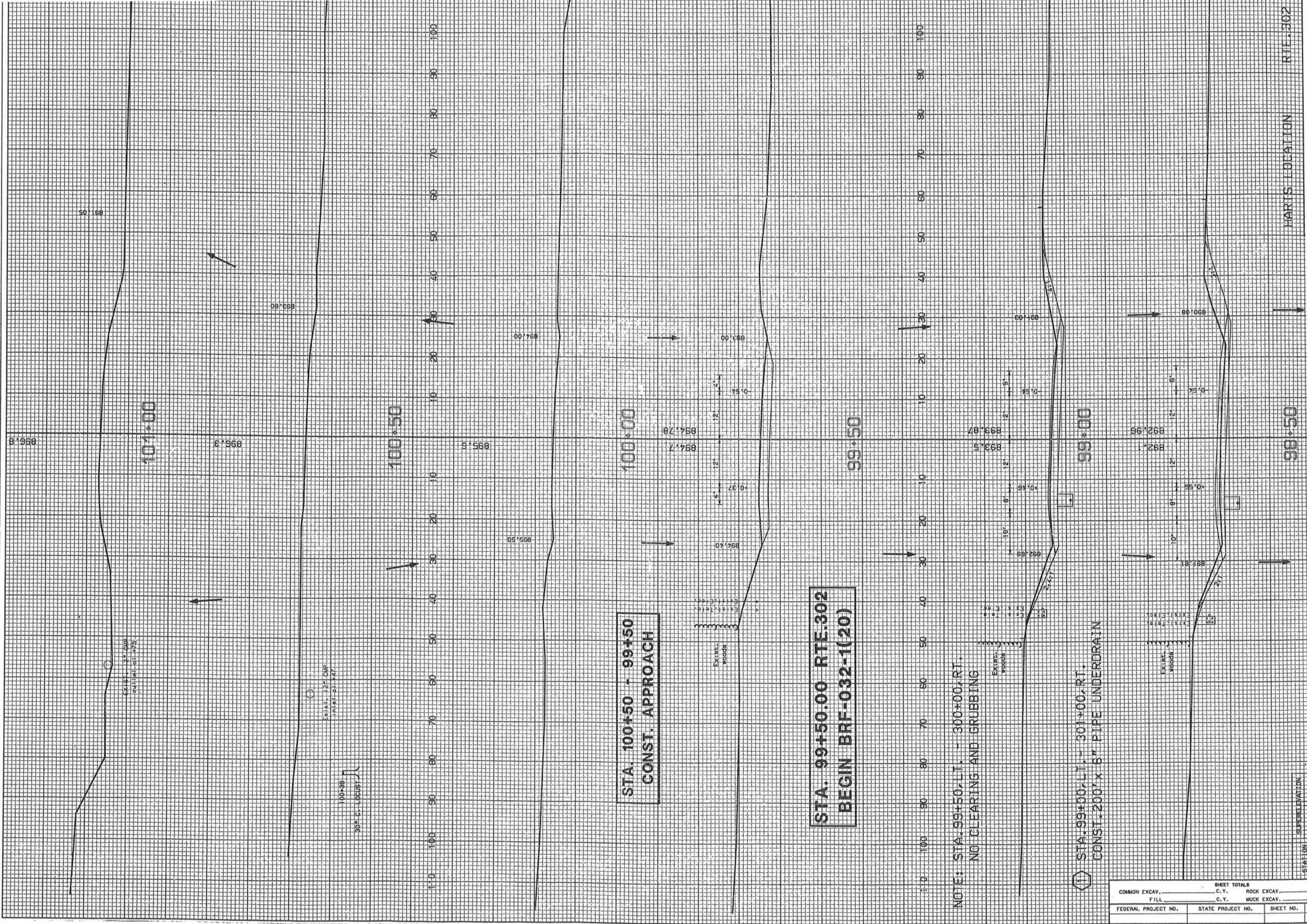
DRAINAGE, GUARDRAIL, CURBING,  
PAVEMENT LAYOUT, AND  
PAVEMENT MARKING

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRF-032-1(20)	P-4366	37	45

SECTIONS PLOTTED	STEVE LEBARON	DATE	9-1-90
TEMPLATE PLOTTED	"	DATE	"
EARTHWORK COMPILED	"	DATE	"
SHEET CHECKED	"	DATE	"
FINALS PLOTTED	"	DATE	"

NOTEBOOKS			
BOOK	PAGE	BOOK	PAGE
BOOK	PAGE	BOOK	PAGE
BOOK	PAGE	BOOK	PAGE

REVISIONS AFTER PROPOSAL			
NUMBER	DATE	STATION	DESCRIPTION



NOTE: STA. 99+50, LT. - 300+00, RT.  
NO CLEARING AND GRUBBING

1 STA. 99+00, LT. - 301+00, RT.  
CONST. 200' x 6" PIPE UNDERDRAIN

SHEET TOTALS			
COMMON EXCAV.	C.Y.	ROCK EXCAV.	C.Y.
FILL	C.Y.	MUCK EXCAV.	C.Y.
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	SHEET NO.

STATION	SUPERELEVATION	HARTS LOCATION	RTE.302
98+50			
99+00			
99+50			
100+00			
100+50			
101+00			

SECTIONS PLOTTED  
DATE 9-1-90

DATE "

DATE "

DATE "

DATE "

DATE "

TEMPLATES PLOTTED  
DATE "

DATE "

DATE "

DATE "

DATE "

DATE "

EARTHWORK COMPILED  
DATE "

DATE "

DATE "

DATE "

DATE "

DATE "

SHEET CHECKED  
DATE "

DATE "

DATE "

DATE "

DATE "

DATE "

FINALS PLOTTED  
DATE "

DATE "

DATE "

DATE "

DATE "

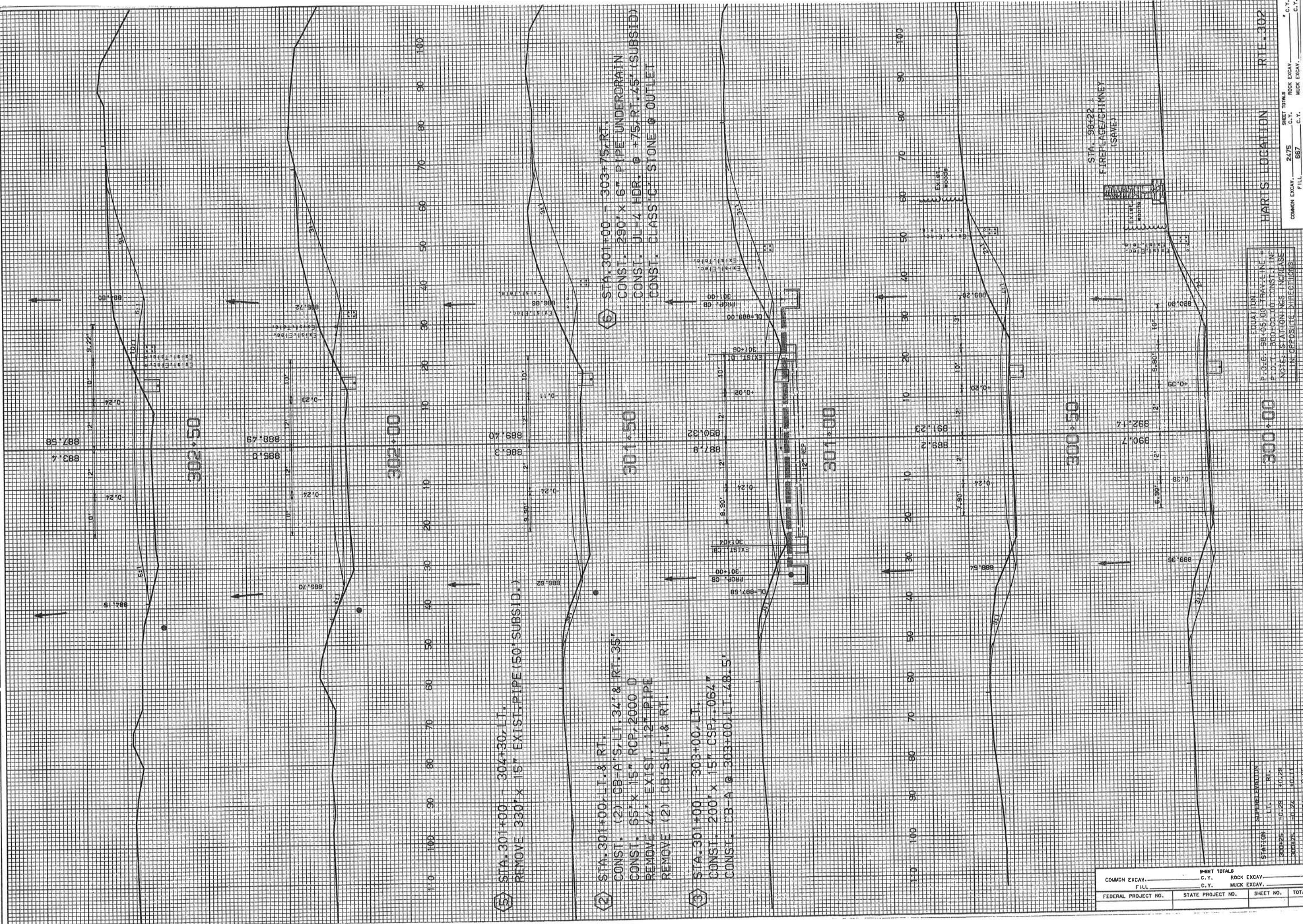
DATE "

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

NOTEBOOKS

BOOK	PAGE
BOOK	PAGE
* BOOK	PAGE



SHEET TOTALS			
COMMON EXCAV.		C.Y.	ROCK EXCAV.
FILL		C.Y.	MUCK EXCAV.
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL

SUPER ELEVATION		
STATION	LL	RT
300+25	10.25	10.25
300+75	10.24	10.11
301+25	10.24	10.05

ELEVATION  
P.O.C. 98+05.90 TRAV. LINE  
P.O.T. 300+00.00 CONST. LINE  
NOTES: STATIONING INCREASE  
N. OPPOSITE DIRECTIONS

HARTS LOCATION

RUE-302

COMMON EXCAV.

2475

FILL

667

SHEET TOTALS

C.Y.

ROCK EXCAV.

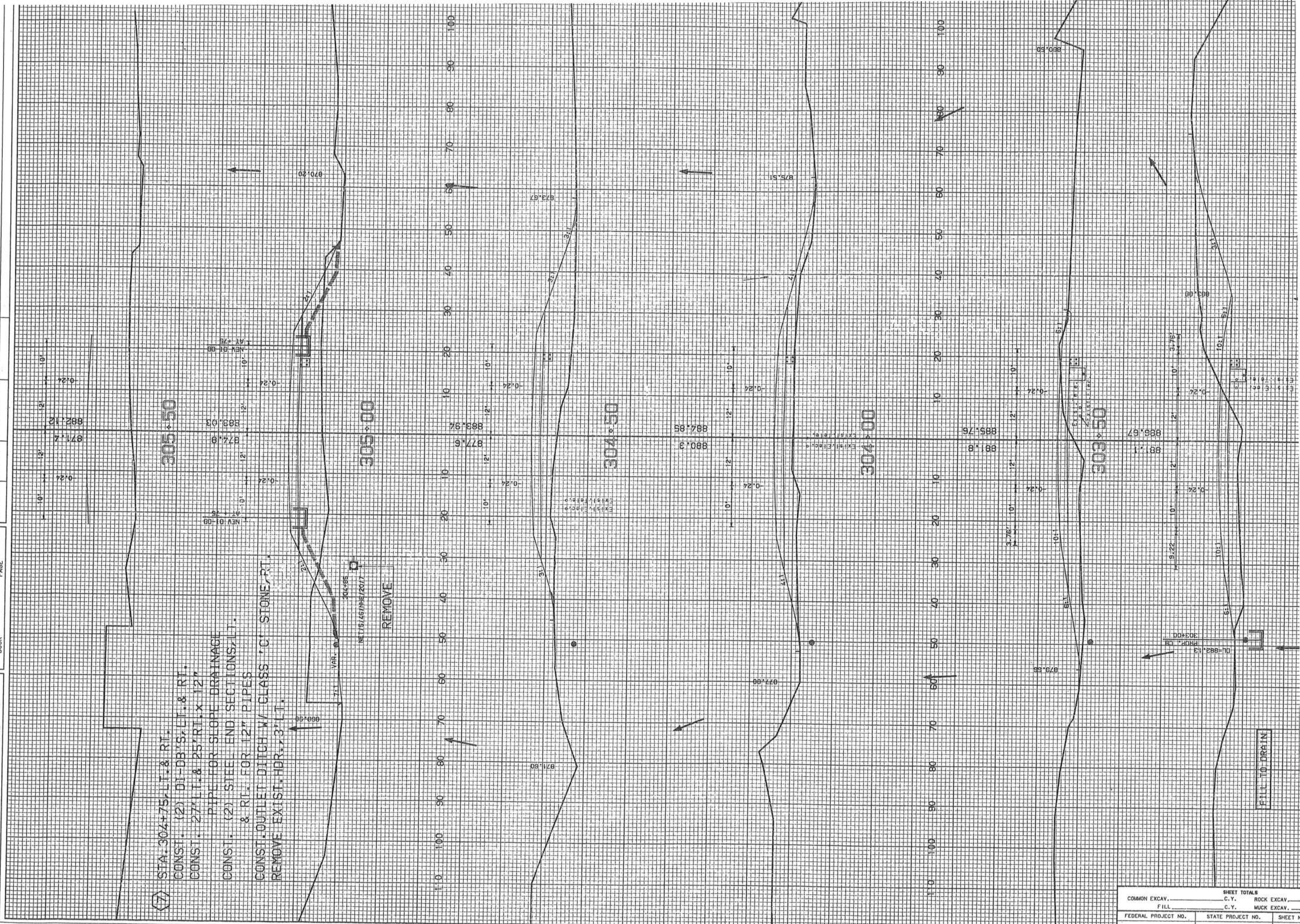
C.Y.

MUCK EXCAV.

C.Y.

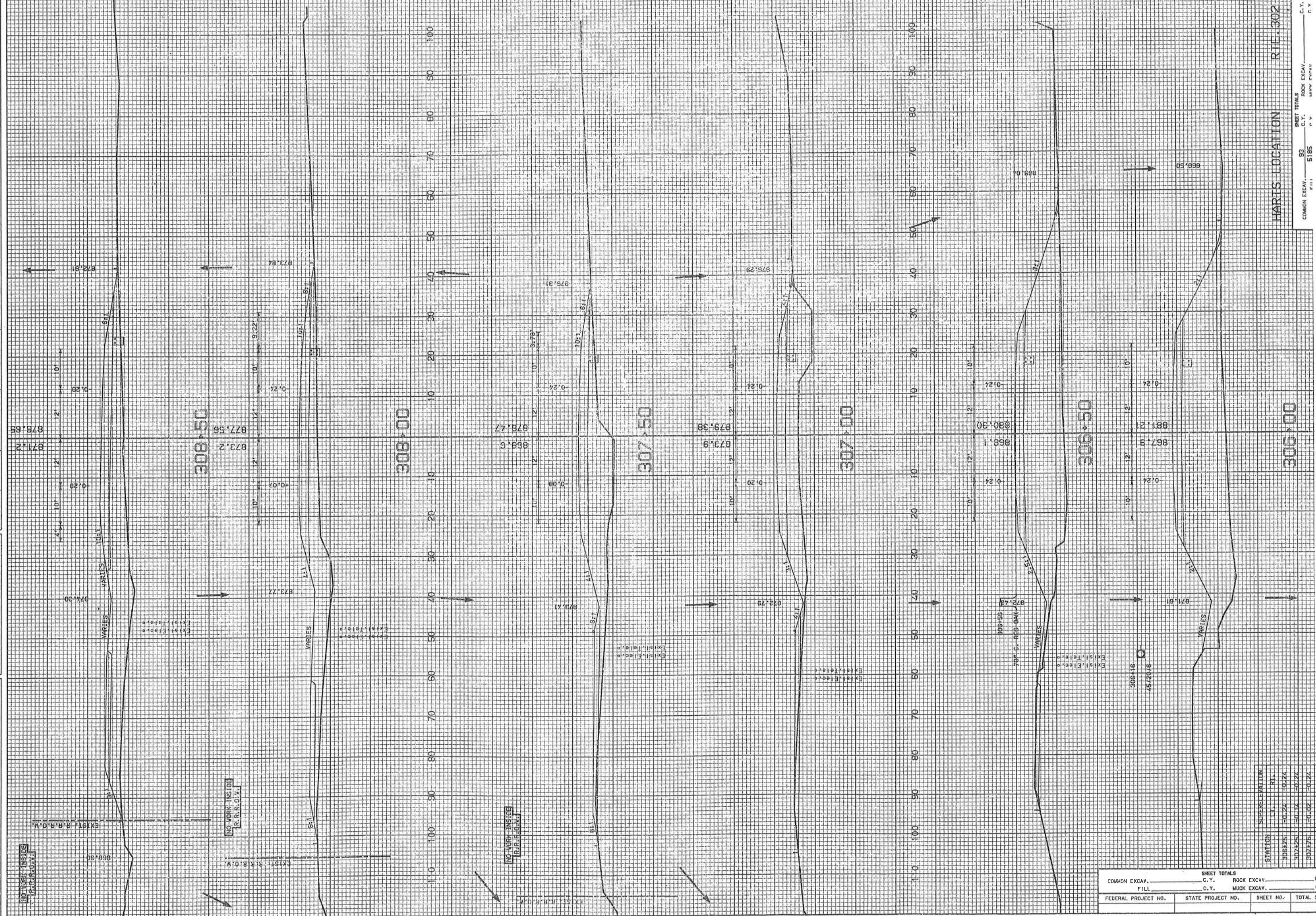
SECTIONS PLOTTED STEVE LEBARON		DATE 9-1-80		REVISIONS AFTER PROPOSAL			
TEMPLATE PLOTTED	" "	DATE	" "				
EARTHWORK COMPILED	" "	DATE	" "				
SHEET CHECKED	" "	DATE	" "				
FINALS PLOTTED	" "	DATE	" "				
				NOTEBOOKS			
				BOOK	PAGE		
				BOOK	PAGE		
				BOOK	PAGE		

7	STA. 304+75, LT. & RT.
	CONST. (2) DI-DB'S, LT. & RT.
	CONST. 27' LT. & 25' RT., x 12"
	PIPE FOR SLOPE DRAINAGE
	CONST. (2) STEEL END SECTIONS, LT. & RT. FOR 12" PIPES
	CONST. OUTLET DITCH W/ CLASS 'C' STONE RT. REMOVE EXIST. HDR., 3' LT.



		SHEET TOTALS	
COMMON EXCAV. _____	C.Y. _____	ROCK EXCAV. _____	
FILL _____	C.Y. _____	MUCK EXCAV. _____	
FEDERAL PROJECT NO. _____	STATE PROJECT NO. _____	SHEET # _____	

SECTIONS PLOTTED STEVE LEBARON			DATE 9-1-90	NOTEBOOKS		REVISIONS AFTER PROPOSAL				
TEMPLATE PLOTTED	"	DATE "				NUMBER	DATE	STATION	STATION	DESCRIPTION
EARTHWORK COMPILED	"	DATE "			BOOK					
SHEET CHECKED	"	DATE "			BOOK					
FINALS PLOTTED	"	DATE "			BOOK					

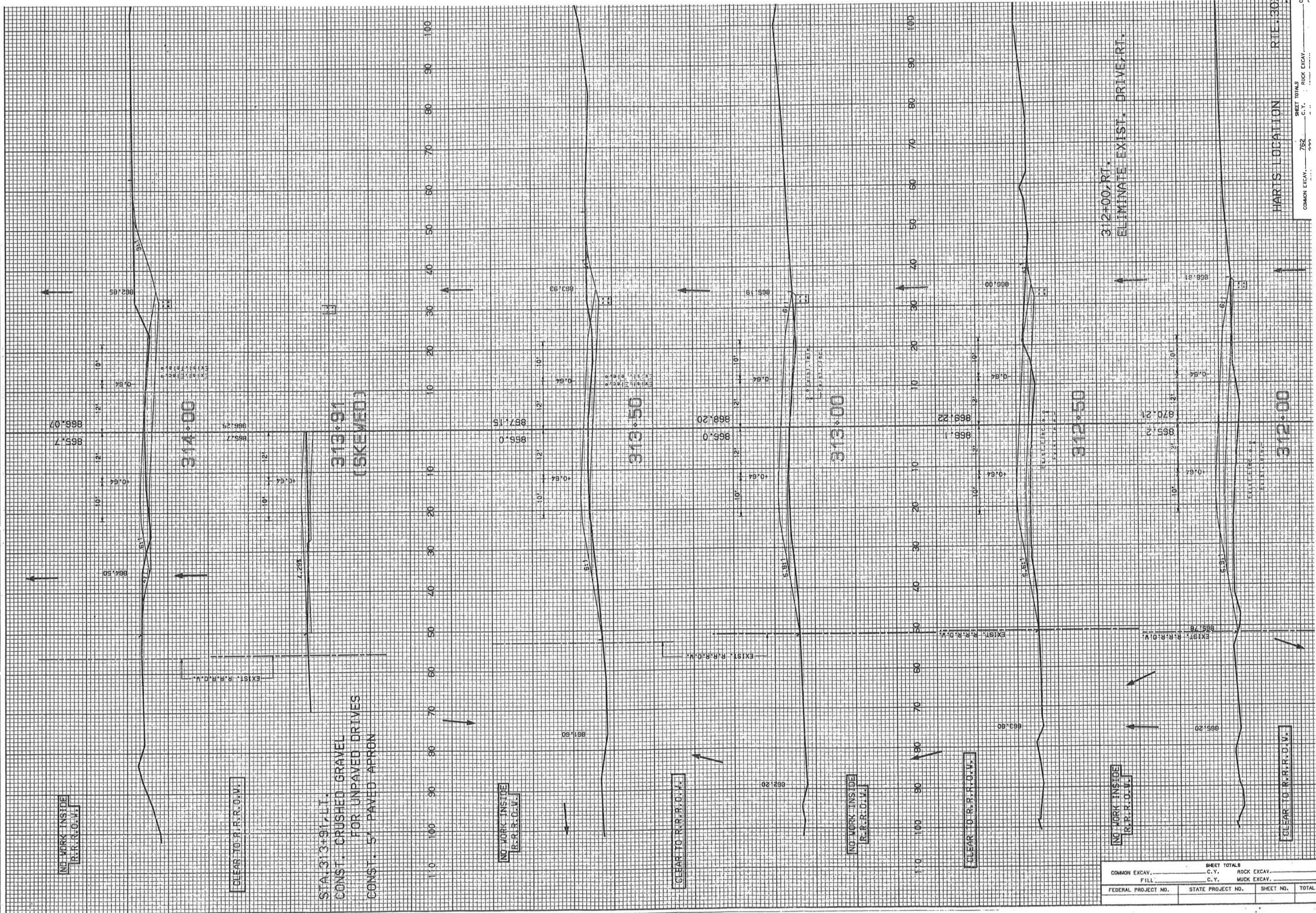




SECTIONS PLOTTED		STEVE LEBARON		DATE 9-1-90	
TEMPLATE PLOTTED		"		DATE "	
EARTHWORK COMPILED		"		DATE "	
SHEET CHECKED		"		DATE "	
FINALS PLOTTED		"		DATE "	

REVISIONS AFTER PROPOSAL	
NUMBER	DATE
STATION	STATION
DESCRIPTION	

NOTEBOOKS	
BOOK	PAGE
BOOK	PAGE
BOOK	PAGE



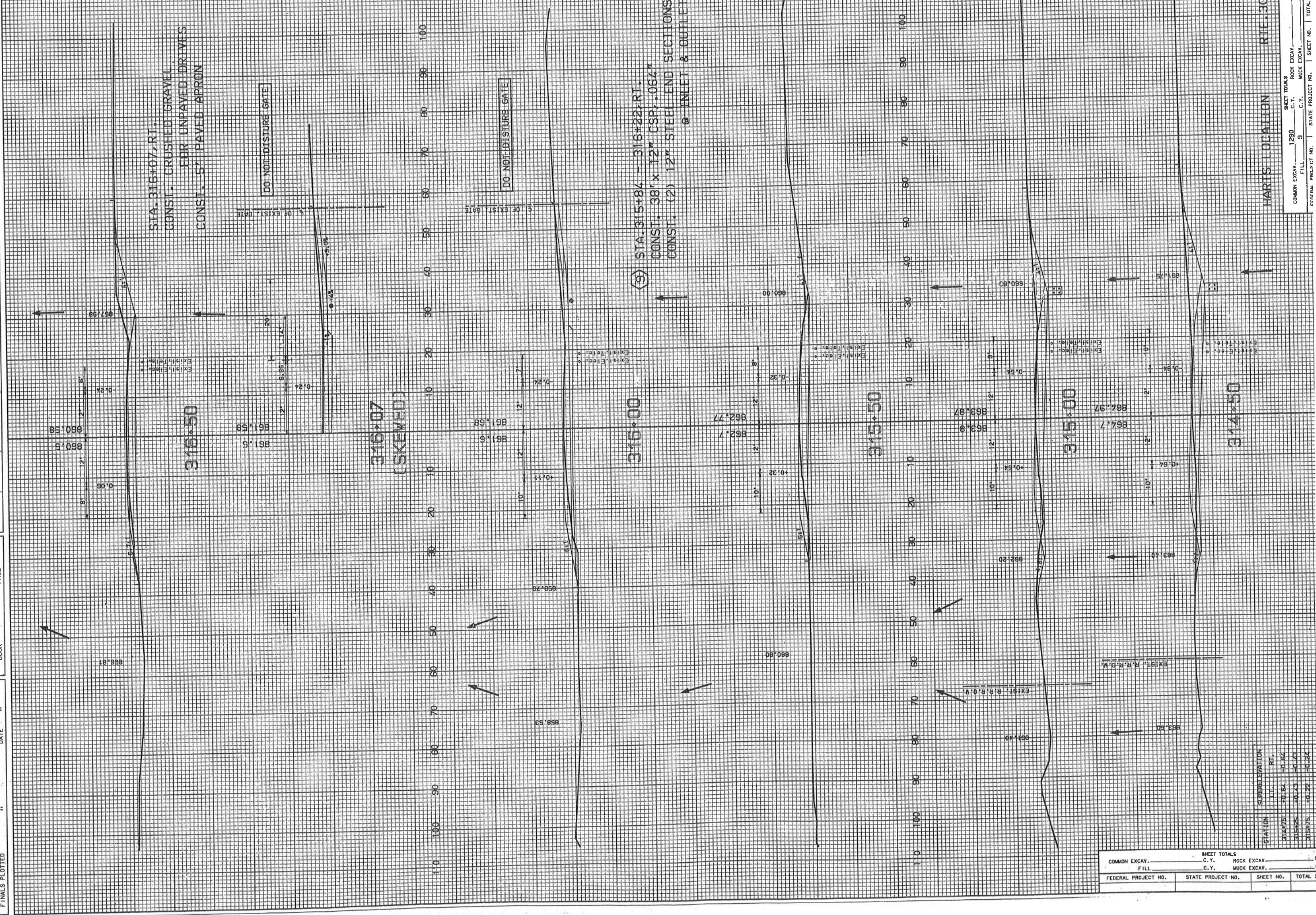
SHEET TOTALS			
COMMON EXCAV.	C.Y.	ROCK EXCAV.	
FILL	C.Y.	MUCK EXCAV.	
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

SECTIONS PLOTTED	STEVE LEBARON	DATE	9-1-90
TEMPLATE PLOTTED	"	DATE	"
EARTHWORK COMPILED	"	DATE	"
SHEET CHECKED	"	DATE	"
FINALS PLOTTED	"	DATE	"

NOTEBOOKS		
BOOK	PAGE	PAGE
BOOK	PAGE	PAGE
BOOK	PAGE	PAGE



COMMON EXCAV.		SHEET TOTALS		ROCK EXCAV.	
C.Y.		C.Y.		C.Y.	
FILL		C.Y.		MUCK EXCAV.	
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL		

STATION	SUPERELEVATION		
	LT.	RT.	
314+50	10.54	10.54	
315+00	10.73	10.73	
315+50	10.77	10.77	

HARTS LOCATION		RTE. 302	
COMMON EXCAV.	1250	ROCK EXCAV.	C.Y.
FILL	9	MUCK EXCAV.	C.Y.
FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL

REVISIONS AFTER PROPOSAL

1

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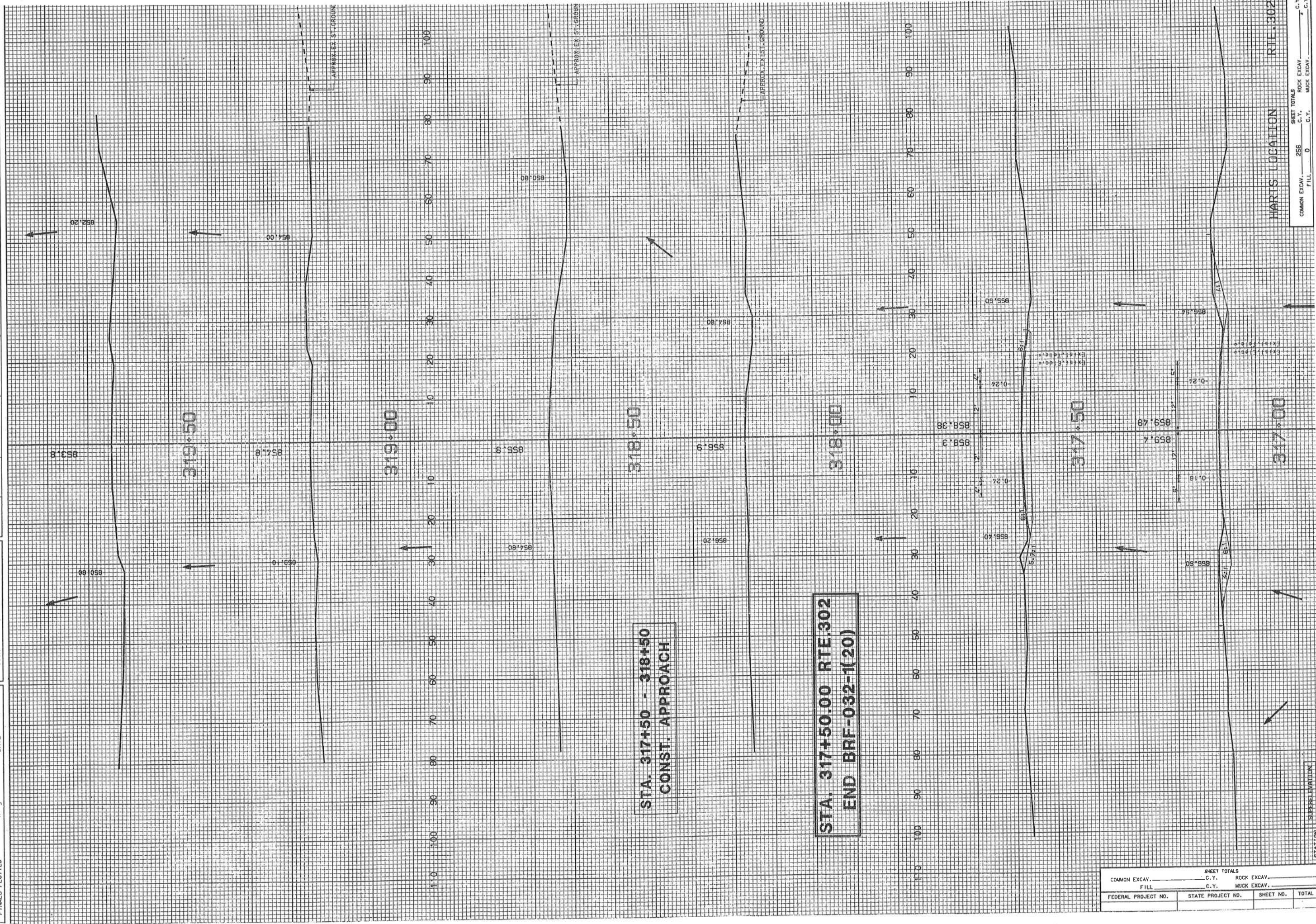
11

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1998

1



COMMON EXCAV. _____ C.Y.				ROCK EXCAV. _____			
FILL _____ C.Y.				MUCK EXCAV. _____			
FEDERAL PROJECT NO.		STATE PROJECT NO.		SHEET NO.		TOTAL	